NOTE.

THESE ADDRESSES were all delivered, in the course of the Session 1855-56, at evening meetings of the EDINBURGH MEDICAL MISSIONARY SOCIETY, held monthly in the Lecture-room attached to the Royal College of Surgeons, to which meetings, Students of Medicine were specially invited.

The object and operations of the Society, at whose instance the Addresses were delivered, and are now published, may be learned by referring to pages 222-225 of this volume.

ADDRESSES

TO

MEDICAL STUDENTS

DELIVERED AT THE INSTANCE OF THE

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PREFATORY ESSAY.



PREFATORY ESSAY.

EVEN during the short period which has elapsed since the publication of the former volume of these Lectures, such progress has been made in the sciences of Life and Organization on the one hand, and in the extension of the knowledge and power of the advancing civilized nations of the earth, over the wilderness of nature, and over the institutions of barbarism, or imperfect and stationary civilization on the other,—as must satisfy any one who reflects on the subject, that our anticipations of the strength and security given to the knowledge and the powers of civilized man,—not simply by the influence of religious feeling over his mind, but by the *combination* of religious feeling with scientific acquirements, which we may hold to be characteristic of the present age—are justified Especially as regards those Sciences of Life, there is so much

to animate the hopes, while it regulates the progress of the men of Science of the present day, that we cannot hesitate about regarding those European nations, in which the different branches of natural Science are most earnestly prosecuted, as the main instrument now employed by Providence for fulfilling his promise to the human race, that they shall "replenish the earth and subdue it," and minister to the accomplishment of all his designs in regard to it.

"The Roman colonies along the banks of the Rhine and Danube," says Dr. Arnold, "looked out on the country beyond those rivers, as we look up at the stars, and actually see with our eyes a world of which we knew nothing. The Romans knew that there was a vast portion of earth which they did not know,—how vast it might be was a part of its mysteries. But to us *all* is *explored.* Everywhere the search has been made, the report has been received, and we have the full account of earth's resources before us." *

It is recorded of Sir Isaac Newton, that he expressed himself confidently as to the intro-

* Arnold. Lectures on Modern History, (Inaugural), p. 29,

duction of the human race upon earth having taken place at a comparatively late period of the earth's history; because he thought, if a being possessed of the intellectual powers, and of the moral and social qualities which are characteristic of Man, had existed on the earth's surface as long as it has been circulating round the sun, it could not have happened, that so much of Creation would have remained unknown down to his time; and if we reflect on the extension both of science, geological, geographical, and physiological, and of art, mechanical and chemical, since the time of Newton, we shall see abundant indications of the truth and importance of that observation, as applicable to the countrymen of Newton, and to the science of Europe since his time; and especially to those sciences which are the most immediately connected with the practice of Medicine.

It is not yet a century since such knowledge has been acquired as to the constitution of the earth's Atmosphere, and the connection between it and Vitality, as could have justified the grand but vague assertion of La Voisier, that the whole organized world is the offspring of the Air; and already our knowledge on that subject has

acquired such extent and precision, that we can point out, *first*, the different qualities, mechanical and chemical, which must, during the whole time of which human nature takes cognizance, have actuated all the different kinds of *inorganic* matter, solid, fluid, and gaseous, by which the atmosphere is composed, and satisfactorily explain many and great changes, past and present, on the earth's surface, resulting from these laws of inanimate matter. *Next*, we can specify the essential and characteristic office assigned by Nature to each of the forms of *organized* beings, brought into existence and supported by *living* powers, and known to have existed only during what we call geological periods;—to *vegetable*, structures first, which we see to be maintained by those living powers,—chiefly out of the inorganic constituents of the atmosphere, in virtue of their exclusive power of decomposing carbonic acid and fixing carbon, with the aid of light,—but partly also of the remains of former generations of organized beings; and to *animal* structures next, which are directly or indirectly dependent on those vegetables for nourishment and sustenance, but always under that very peculiar condition, that the living power whereby any part of

the animal structure attaches to itself matter duly prepared in the vegetables, is granted to it for a short time only; "although the depository of forces, which compel fresh matter of the same kind to follow the same course, it must soon be there no longer;" and the more energetically it has exerted its living qualities, the sooner it must lose them. Losing these, and gradually reverting to the condition in which it was, before being taken into any organized frame, this matter constitutes the different animal Excretions, which we must regard as necessary steps in this process of *retrogressive assimilation*.

We easily perceive, therefore, that the parts of an animal structure, and the peculiarity of their vital action, by which these excretions are kept up, must be equally essential to the continued preservation of the health and strength of the whole, as the maintenance and living agency of the organs destined to the reception and assimilation of its *ingesta;* but we could not have anticipated, and indeed have only very recently ascertained, that portions of the matter continually taken into living animals, and performing its office there, not only lose their beneficial living power,

but acquire various, and often rapidly effective deleterious powers, and unless the provisions for their expulsion are sufficient, become the most uniform and almost the most deadly of *poisons.*

It is only under the benignant influence of a certain degree of Light, and within narrow limits of Temperature, (for the maintenance of which, both in the animal frame itself, and in the external world, provisions of extreme ingenuity have been made), that the vast Chemical Circulation, which some have termed the "*Tourbillon Vital*," others, perhaps more correctly, the "Balance of Organic Nature," is continually kept up in the atmosphere around us; resulting in the reproduction—we may even say the successive Creation—of the living inhabitants of that atmosphere, vegetable and animal; in such numbers, that we might suppose them to be eternal, but for the evidence that "the world existed for many ages without them;" and of such variety as we might well suppose to be infinite, were it not that we can distinctly specify a comparatively small number of "Types of structure" in each department of organic nature, to each of which many families are seen to conform under certain modifications, and

which have been therefore justly held as indications of "unity of design."

The grand system of Life, thus defined with a precision formerly unknown, comprehends, and assigns their proper limits to, many of the Sciences which have of late years fixed the attention of mankind,—not only the descriptive sciences, Botany, Zoology, and Anatomy, human and comparative,—of extinct as well as existing species,—but the higher sciences of Chemistry and Natural philosophy,—as modified by Vitality as well as independently of life, and as indicated by the records of Geology, as well as making themselves known to the observer of the changes of the present day;—and of Psychology as constituted by the observation of Mind in all its departments, even in the indications of the Providence of our Maker. All these sciences are the efforts of human intellect to comprehend one grand design, strictly called "The Vast Miracle that still goes on, in silence round us," because proved to be carried on in opposition to the powers which, in all other circumstances, regulate the changes to which the same matter is liable; and we should be animated rather than disappointed by the reflec-

tion, that human genius has long since been found capable of sketching, in outline, all the steps of the process.

> " See plastic Nature working to this end,
> The single atoms each to other tend,
> Attract, attracted to, the next in place,
> Form'd and impell'd its neighbour to embrace.
> See matter next, with various *life* endow'd,
> Press to one centre still, the gen'ral good.
> See dying vegetables life sustain,
> See life dissolving vegetate again ;
> All forms that perish, other forms supply
> (By turns we catch the vital breath and die.)
> Like bubbles on the sea of matter borne,
> They rise, they break, and to that sea return.
> Nothing is foreign ; parts relate to whole ;
> One all-extending, all-preserving *soul*
> Connects each being, greatest with the least ;
> Made beast in aid of man, and man of beast ;
> All served, all serving ; nothing stands alone ;
> The chain holds on, and where it ends unknown."*

But while we acquiesce in this ultimate admission of ignorance, so far as human observation can carry us, let us farther assert with confidence, because we know it from a higher authority than our own nature, that one main *object* has been, the maintenance of a kind of Nervous System, analogous to that of many other animals, similarly pro-

* Pope's Essay on Man, Ep. iii. L. 8.

tected by a curious arrangement of bones, similarly served by organs of sense and by muscles of instinctive and voluntary motion, and similarly nourished by help of a great variety of living powers, which the terms Sense and Instinct naturally reveal to the mind,—but to which has been assigned the higher office of furnishing conditions under which a Mind, formed after the image of the Divine, shall be connected with an organised structure,—made its temporary inhabitant, and endowed with the power of reproducing its structure and properties.

While we have attained, within the period of which we speak, knowledge such as never before was in the contemplation of mankind, as to the mode in which all vital actions are carried on, their essential conditions and connection with one another, as seen in all classes of living creatures, we have acquired likewise such additional extent and precision of knowledge as to the essential nature of the changes which are wrought on them in the course of Diseases,—as to the modes in which the external causes of disease are themselves produced, and those in which they modify the course of the vital actions,—were it only as to the different kinds of

Epidemics, resulting from the morbific poisons, and the analogy of their influence on vitality to that of the poisons continually formed in the living body itself,—as can hardly fail to enable medical advisers, in many and different circumstances, to disarm Disease of its terrors.

When we consider, again, the improvements in many useful arts,—upon the Steam-engine, and its application both to navigation and railway travelling within the present century,—the connection of that mode of communication with the Electric Telegraph, which, so far as intelligence goes, may be said to annihilate distance between the points so connected,—the improvements in the Arts of war, giving to the nations of Europe so decided and unapproachable a superiority over all others;—simultaneously with these, the discovery of Gold, both in Australia and California; the extension of our scientific knowledge both of storms, and of currents at sea; and at the same time the extension of the means of Education, lately so earnestly prosecuted, both in Europe and America;—above all, when we remember that these advances have so quickly succeeded the general promulgation of the doctrine of Free

Trade,—which we may hold to be, when duly understood, simply the recognition of the Christian principle, of *doing as we would be done by*, as the first law of Commerce;—when we recollect that here, likewise, genius in the preceding age has so completely anticipated the acts of human wisdom in the present, that the sublimity of poetry in the following lines seems to us, at this day, to have been exchanged for the solemnity of Prophecy;—

> "The time shall come when, free as seas or wind,
> Unbounded Thames shall flow for all mankind,
> Whole nations enter with each swelling tide,
> And seas but join the regions they divide;
> Earth's distant ends our glory shall behold,
> And the New world launch forth to seek the Old;—"*

And when we observe, farther, that this grand and simple Christian principle, no longer confined to the closet or the academy, is now held out as the leading topic of mutual congratulation in the convivial meetings succeeding the pacification of Europe,—"Dieu merci, *nous savons tous, aujourd'hui*, que le principe de la richesse des peuples c'est *le travail*; que le commerce ne s'établit que de producteurs à producteurs; et

* Pope. Windsor Forest, L. 397.

que, par conséquent, *l'activité de nos voisins*, est aussi essentielle que la nôtre, au developpement de *nôtre prospérité;* Que personne ne cherche donc à nous diviser, car personne n'y réussira."* We can hardly fail to recognize, in these different and apparently unconnected changes, the elements of such an extension of Power and Civilization, in the next generation, as we cannot regard as the result merely of unassisted human exertions. We have, besides, already such information from individual enterprise in those wide-spread, rich, even populous districts, both of Asia and Africa,† which have remained, nevertheless, up to the present day, almost absolutely unknown in any parts of the world from which they are separated either by oceans or deserts,—as we may suppose to be the destined forerunners of civilization in them all, provided only that such civilization is attempted on the principles, which Experience has shewn to be adequate to the purpose.

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* From M. Persigny's speech at the Lord Mayor's dinner, May 7, 1856.

† We need only mention the names of Captain Basil Hall, the visitor of the Loo Choo Islands, Lieut. Burton, the British traveller to Medina and Mecca, and of Drs. Barth and Overweg, the German missionaries in Africa.

And if we ask, what are the results of experience in this matter, I apprehend the only answer we can return is one which is amply justified likewise by any exercise of judgment which we can bestow on it, viz., we must shew to the inhabitants of those districts of the earth that we possess the power, not only to control them in war, but to confer on them many and lasting benefits in peace; and farther, not only that we possess the power, but *feel the obligation*, to exercise it for their benefit, at least as much as for our own; and what is meant by this, but that we wish to have intercourse with them, as Christians and as men of Science; and to be guided by the obligations which we now see that these titles impose.

I think it is only doing justice to the memory of my Father, to quote here a few sentences from a volume of his Sermons which were published in 1814, and compare them with the statements of some of the authors of the most acknowledged reputation, who have written since that time as to the Extension of Christianity over the Earth, to shew how exactly his views on this subject appear to be in process of realisation.

"The religion of the Gospel has found its

way throughout every difficulty which opposed it; unsupported at first by human genius, unaided by learning, and altogether unprotected by power, it yet, by its own inherent evidence, has subdued gradually every institution, either of classic refinement or of barbarian policy; it is at this hour the religion of every people who are wise, or great, or progressive, among mankind; and the mark of civilisation and capacity in all the nations who at this moment inhabit the earth, is precisely that of their being, or not yet being, the disciples of the Christian faith. In the next place, wherever the Gospel has spread, it has been efficient in raising the human race to greater exaltation of mind, and greater capacity even of present happiness, than all the records of former ages could shew.

"I am well aware that the character of individuals, and of nations, who call themselves Christian, is yet far below the design of Providence. But while the vices and the follies of men are ever retarding the merciful will of their Maker, the retrospect of eighteen hundred years must shew us, that there is a design carrying on in the present hour, which man can never

defeat; and that the misery of men or of nations is not because they are, but because they are *not* Christians.

"The prophecies which the Gospel records; in particular, long before its arrival among mankind, the wondrous prophecy to Abraham, 'that in his generation all the nations of the earth should finally be blessed,' are now in the career of accomplishment. While we look back to the history of eighteen hundred years, we are entitled to judge in some measure with regard to the future; and those truths which, through so many centuries, have prevailed alike over the wise and over the barbarous, which have brought within their pale the voluntary submission of human kind, we are justified in believing to be *the great truths* of which man was in want; and which, therefore, are finally to prevail, while human nature remains the same.

"Of the future, however, we must ever conjecture darkly; and of the conclusion of so many centuries of prophecy, when the human race are to terminate 'in one fold,' and under the guardianship 'of one shepherd,' we in the present hour must remain unconscious. But

there is another evidence (in my apprehension still greater) which we all feel, and which in itself is the real and prevailing evidence, by which the Gospel is finally to arise to its promised dominion. It is the evidence of our own hearts; the conscious *correspondence which we feel*, between the system of Christianity, and all that our fallen but ardent nature implores of divine Truth; the belief, therefore, that the Word of God 'will grow and multiply,' from its own inherent energy, in every future age, as it did in the dark and disastrous days of the Apostles.

"Do you pass the bounds of time, and look and pray for all you love, that they may know the happiness of eternity? Then I appeal to all your hearts, whether there be any other Faith that man has ever been taught, or any other obedience that man can ever perform, which in your belief can fit him for the greatness and the purity of a future life—than the faith and the obedience of the Gospel? In our usual hours we are blinded with the illusions and the dust of time. But in hours of seclusion and of prayer we can see farther; the hopes of every age since man arose have looked to some future scene,

where the wicked shall cease from troubling, and the weary shall be at rest;'—to some final scene where God shall 'wipe all tears' from every virtuous eye; when a kingdom shall begin, 'where only reigneth righteousness.'

"To such ends no other system that you know conducts; for such exaltation no other preparation which you feel is adequate; and while the dark scene of time is thus made to close in glory, your imagination itself can conceive no other system of discipline by which it can be attained, than by the faith, the purity, and the obedience of the Christian."*

"The great proof of the Divine nature and truth of Christianity," says M. Chevalier Bunsen, "is its power of regenerating the world. This regenerating power has shewn itself *twice;* by the moral and intellectual revival of the ancient world, after the downfall of the universal empire of Rome in the *fifth* Christian century; and by the moral, intellectual, and political revival of the modern world, after the down-

* Rev. Archibald Alison. Sermon x. On the Evidence which arises from the Accomplishment of Prophecy. 1814.

fall of the omnipotence of papal Rome in the *sixteenth.*

"Whatever there exists of great, of hopeful, and of redeeming, in the present state of the human race, is the effect of Christianity. This is the true, progressive, and comforting fulfilment of all prophecies of Christ himself, and of His Apostles; and of all those prophetic words and deeds of the ancient world (principally, not exclusively, of the Jewish), which speak of a reign of truth and justice upon this earth."*

"Outward means of constraint," (says Humboldt), "skilfully disposed civil institutions, and long-continued habits of servitude, may indeed produce *union,* by taking away separate national existence; but the feeling of *the unity of mankind,* of their common humanity, and of the equal rights of all portions of the human race, has a nobler origin; it is in the inmost impulses of the human mind, and in its *religious convictions,* that its foundations are to be sought. Christianity has pre-eminently contributed to call

* Bunsen, Hippolitus and his Age.

forth the idea of the unity of mankind, and has thereby acted beneficially on the 'humanizing of nations' in their manners and institutions.

"Deeply interwoven from the first with Christian doctrines, the idea of humanity has nevertheless only slowly obtained its first recognition. Even the personal freedom of entire classes of men long found no protection in Christian states, and even among ecclesiastical proprietors and corporations. Such unnatural impediments, and many others which still stand in the way of the social and intellectual advancement and ennoblement of mankind, will gradually vanish. The principle of individual and political freedom is rooted in the indestructible conviction of the equal rights of the whole human race; and mankind, as one great brotherhood, advance towards the attainment of one common object—the free development of their moral faculties.

"In depicting a great epoch in the history of the world, that of the empire of the Romans and the laws which they originated, and of the beginning of the Christian religion, it was fitting that I should, before all things, recal the man-

ner in which Christianity enlarged the views of mankind, and exercised a mild and enduring, although slowly operating, influence on intelligence and civilization."*

"There is a true system in Theology, however, as in other sciences; and the world is still struggling to ascertain what it is;—progress is made, and patient thought is rewarded, in theology as in other sciences."†

"Who is so sagacious that he can tell what political revolutions are to occur, what dynasties are to continue, or what new discoveries are to be made in Science, or what inventions in the Arts? Who can 'map out the earth for a thousand years hence,' and tell what kingdoms or republics will then occupy the place of those which now appear on the stage? Let him look at Babylon, at Tyre, at Petra, and Tadmor, and Alexandria, and Athens, and Rome, and Venice; and then let him undertake to tell what London, and Paris, and Vienna will be then? But in

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* Humboldt's Cosmos, vol. II. p. 199.

† Barnes' (from America) Miscellaneous Essays. pp. 325-348.

all that unknown future, there is one thing that the eye sees clearly, and whose existence is beyond a doubt. *It is Christianity*, pervading the earth, controlling all classes of mind, regulating all laws, directing the intercourse of all nations, meeting the highest wants of the world. It has been demonstrated that the Christian religion cannot be destroyed by arms, by power, by wit, by learning. No experiment has been more fairly made than this;—to determine whether Christianity could be exterminated by imperial power, by argument, by ridicule, by the sword, the pen, or the faggot. It is settled too, that Christianity takes hold of great elements in the mind of man; and that much as man may dislike it, 'the world will not let it die.' It is the only religion now that has the inherent power of self-propagation. Paganism extends into no new regions; Mahomedanism has long since ceased its efforts to bring the world under its control; Superstition is becoming content with its conquests. The fires on all their altars are dying out; and it is only Christianity that preserves the vitality of an inextinguishable flame. It is certain, too, that Christianity shews a remarkable affinity for the best form of

mind that the world has developed, for the Teutonic, and especially the Anglo-Saxon mind. It was early in the history of the nations that poured in from the north, and overran the Roman empire, that they were brought under the power of Christian truth, and abandoned their superstitions for the faith of the Gospel. In most respects that mind is the best in the world. It has more energy and power; it is better adapted to the sciences—to patient toil, to enterprise, to the useful arts. It has more of that spirit of Adventure which developes the resources of nations, which covers the face of the land with cities, the fields with harvests, and the ocean with vessels of commerce. It is more imbued with the love of liberty, and less liable to be controlled by the sceptre of tyranny, or to be fettered and debased by superstition. It is now the ruling mind of the world, and is extending its conquests every year. There is now scarcely any portion of the world that does not feel its power; and when its conquests are made, they are likely to be permanent. It is not so much the conquest of arms, as of intellect—not the triumph of the sword so much as of the mariner's needle, the telescope, the quadrant,

the blowpipe, the power of steam, and of the press. Now it is undoubtedly the fact, that Christianity has attached itself by indissoluble bonds to this class of mind. Its developments have been in close connection with the Christian religion. Rough at first, fierce, warlike, barbarous, it has been subdued, refined, civilized, by its connection with Christianity, yet without losing aught of its energy or power. In connection with that mind, Christianity has shewn some of its richest developments. and is now found in all parts of the earth; and alike by arts, by literature, and by faith; is coming in contact with all the heathen mind of the world." *

> "In Faith and Hope the world will disagree,
> But all mankind's concern is Charity;
> All must be false that thwart this one great end,
> And all of God that bless mankind or mend."
>
> POPE.

* Ib. p. 350, 351.

ON THE

CHARACTER OF GOD,

AS INFERRED FROM THE STUDY OF HUMAN ANATOMY.

ALTHOUGH I cannot address you now as I could on former similar occasions, as at least a teacher, if not a practitioner of medicine, I can still plead an unabated interest in the welfare of medical students, and an increased desire for their spiritual progress. It is said to be an ecclesiastical canon in reference to those who have entered into holy orders—" once a priest always a priest," and so I would say, " once a physician always a physician," signifying by the term " *once*," more than twenty years of direct connection with medicine as a profession.

I propose on this occasion, as still counting myself one of yourselves, to offer you some reflections on certain problems, which your studies

must compel the thoughtful among you often to consider, and as often, it may be, to leave unsolved.

The nature of these problems will appear, if I try before you to answer the question, "What is the character of God as inferred from the discoveries of anatomy, physiology, and pathology, in other words, as learned from the study of Physical life and death?"

In discussing this question, I propose to inquire how far the study of Biology displays the wisdom, power, and benevolence of the Creator, how far it displays the absence, or the opposite of these. Biology is a comprehensive term for the Science of Life in its fullest sense; but I limit myself on the present occasion to animals, and chiefly to man, and I offer no detailed proof that they display in the structure and action of their living organs endless examples of exquisite contrivance. Our time is too short to admit of a lengthened consideration of the Argument for Design, easy and delightful though the task would be. But its demonstration is superfluous here. I will content myself with observing that:—

1. No sound intellect can avoid perceiving

that animals exhibit in their bodies what, for want of better language, we must call instruments, implements, machinery or apparatus, admirably fitted to produce the effects we every day see them producing. This length every sane man, whether Atheist, Deist, or Christian, must go. That the eye, for example, is good for seeing with, the ear for hearing with, the hands for working with, and the feet for walking with, none but a fool would be afraid to confess. Beyond that point there may be endless differences of opinion. Perhaps God made the eye and gave it to man to see with? Perhaps the eye made itself, without any reference to the use which man might make of it? Perhaps the skull made the eye to fill up the cavity which would otherwise have existed on either side of the nose? Perhaps the eye was not made at all, but existed from eternity? Perhaps it was not given to man to see with, but happening to have an eye, he turned it to account, and fell to seeing?

Wilder speculations than the wildest of those "perhapses" have been uttered by the lips of unwise men; but none has been so unwise as to deny the remarkable fitness of the organs of

the human body to do the work, whether it be regarded as their preordained work or not, which they are actually found doing. The inevitable conclusion which must be reached by every honest student of animal structure is, that if eyes were not made to see with, hands to work with, and feet to walk with, they could not have served better for seeing, working, and walking, had they been made for these purposes.

2. But if this be the case, who will believe that they were not expressly designed for such purposes? Who does not believe that they were? A man may quite honestly doubt for a moment that he exists at all; but only for a moment; for were he non-existent, his power to doubt would be non-existent also, and thus his nearest approach to self-annihilation is but the ebb of a tide which immediately returns in flood, and rises higher than before. Men may in like manner reason themselves into the momentary fancy that the apparatus or machinery of animal life does not point to the existence of a marvellous machine maker; but such a fancy is soon exchanged for the irresistible and abiding conviction that a living creature is

in all its parts a wonderful monument of power and skill.

On this point, the direct and indirect testimony of mankind is equally unanimous. I do not imagine that it would be easy to find a man who could meet his own eyes in a looking-glass, and affect to say, that he sincerely and abidingly believed that they had found their way into his head by chance, and were only by accident suitable to see with. At all events, the majority of mankind would not envy him his sorry belief. Fortunately for us, the opposite faith is indelibly printed on our hearts long before sophistry has any power to make us sceptics. Among the endless questions with which an intelligent child plies a willing listener, there never occurs a query implying a doubt that every part of the birds and beasts which it loves to talk about was created for a wise end. It takes for granted the general doctrine, and is only curious to know what the particular use of the certainly useful wing, or foot, or other organ is. Its oracle may be puzzled to reply to its pertinacious demands, why, for example, a crow is black, and a swan white, or why an elephant has a trunk and a camel has not; but it will

never be necessary to persuade a child that there is some reason for these differences of endowment, and some end to be served by them.

Nor is this one of the delusions of childhood which passes away with its bloom. If the child grow up to be a woman, she may care as little, perhaps be able as little as when a child, to reduce to a formal proposition her belief, but you will not reason her out of it, and you can do little to deepen it. She would smile at you, or pronounce you an unwise trifler, if you offered to demonstrate that her ears were really made to hear with, and are not accidental cavities in her head, or that she is justified when she speaks in using her tongue for the purpose.

And if the child grow up to be a man, however simple and untutored he may be, he will be found practically holding by all that our Natural Theologies, and Bridgewater, and other Prize Essays have undertaken to prove. He will not thank you for demonstrating to him, that he is right in standing on his feet rather than on his head, or think the more of your wisdom because you engage to shew that those skilful hands of his were framed and fashioned to be skilful. You may puzzle him, or weaken

his faith, but you cannot originate it, or greatly strengthen its power.

And further, it is not only unspeculative women or untutored men that are found holding such doctrines, nor are they the poetical delusions of illogical minds. The majority of the great anatomists and naturalists from the earliest days have rejoicingly confessed the same belief, and expatiated on it. The continual occurrence in all medical discussions, of such terms as "*organ*" and "*function*," is enough to shew how deep-rooted is the conviction that every living creature possesses a multitude of instruments for the production of certain ends, and is continually employing them to fulfil those ends; and the single term "organism" which includes both plant and animal, is the condensed expression and memorial of this conviction.

It would be easy to illustrate by quotations from the writings of distinguished anatomists, physiologists, and naturalists the truth of those statements, but this is unnecessary. Let it only be remembered that to maintain in being even a creature very low in the scale of existence, and that for a single day, requires a very nice adjustment between the quantities of food,

drink, and air that enter its body; between the amount of repose which it enjoys, and the amount of exercise which it takes; between the alternations of temperature to which it is successively exposed; and between the number, power, and skill of its enemies, and its ability to vanquish or evade them. Yet not only do we find this lowly creature maintaining and enjoying its individual existence for days, and weeks, and months, and even years, but we know that it has descended in unbroken line, from a series of ancestors who, for hundreds of centuries, have kept their torch of life unextinguished, and have transmitted it burning as brightly to the existing representatives of the race. Between, for example, a single butterfly of last summer, and the first of its species, think what a countless army of butterflies, including ova, caterpillars, and aurelias, has marched down the plains of time, for thousands of years, and what a sum of life has been realized, in spite of all the hindrances to its realization; and then call to mind that this vast sum of life has not been a fortuitous result, but the direct product of the nicest life-producing machinery, working in the nicest way, and no detailed argument will

be needed to shew that this machinery must owe its existence to a mechanician of great wisdom, power, and skill. Think, further, that every one of us has come down by living steps all the way from Adam, and that for each of our countless ancestors his or her life was a battle from the cradle to the grave, and yet so far a victorious battle, that we are here to-day as full of life as they were; and however you explain it, you must admit that all the conditions of human vitality must have been most nicely adjusted, otherwise we had never been here to rejoice that we are living, or to ask what the conditions of human vitality are.

But if the conclusion be reached that living organisms were designed and constructed by some intelligent Being or Beings, the further conclusion cannot well be avoided that the Maker and Maintainer of those wondrous living machines must be God. It is true that a wisdom short of Omniscience, and a power short of Omnipotence might be sufficient for the creation and preservation of beings lower in the scale than man. The greatest of the angels, we might suppose to have gifts adequate to such a task; yet the mightiest of them all is but a creature like

ourselves, and would refer us to God as the source of all his wisdom and power. Sooner or later even if solving the problem only of an insect's life, we should find ourselves conducted for a solution to the throne of the Eternal. And where human life is the problem before us, and we realise it in our own consciousness as inseparable from a spirit which can commune with God, an instinct planted by Himself, bids us debar every mere creature from coming between us and Him, and none other will we call our Father in Heaven. If, indeed, we believe that we were made in God's image, we must believe that we are made by Him, for the signet with which He has impressed the stamp of a divine origin upon us, belongs to the glory which he will not give to another. The Great Seal of the Monarch of the Universe no inferior being could touch and live.

Into the question, much debated, how far conviction of the presence of design in the bodies of animals, compels belief in a Personal Designer, I do not enter. I take for granted the affirmative, and that it is your faith, my present object not being to lay the foundation of the argument for design, which time does not

allow, but to consider certain alleged contradictions or qualifications of it, which the recent progress of biology is declared to have brought to light. I leave also altogether unconsidered the important question, how far is our belief that in God our Maker and Preserver we live, move, and have our being, a conclusion which we could have reached without the help of a direct revelation; how far have the Scriptures taught us the doctrine? It may suffice to notice on this point, that from the testimony of heathen antiquity, and the appeal of St. Paul to the philosophers of Athens who heard his address on Mars' Hill, we are assured that men ignorant of the Scriptures, reached, and accepted the belief, that mankind were "the offspring of God." It is certain, on the other hand, that the majority of us have learned in very early life this doctrine at once in all its fulness from the Bible, and can only very imperfectly discover in later life to what extent we inherit as a birthright an intuitive belief that there is a God, the Creator and Sustainer of us and of all other creatures, to what extent our unaided intellect would conduct us to the conclusion that such a God there must be.

There can be no question that the modern faith of the civilised world in God, even on the part of those who despise the Scriptures, is largely gathered from them: there can be as little question that the faith of the truest Christian saint in God, is but in part founded on his direct revelation of himself through Christ, and in the Scriptures. But it is enough for me, without asking whence the conviction reached your minds, that I may reasonably assume that you believe that "God made the world, and all things therein," and "giveth to all life, and breath, and all things."

Now this great doctrine that every living creature is a monument of divine power, wisdom, and goodness, is one which I am sure, from my own experience, a student of medicine often finds it very hard to hold by, and yet it is most desirable for his own sake that he should have an earnest faith in it.

I believe that there are very few thoughtful young men who are not struck at the outset of their medical studies with the evidences of wonderful and merciful design which the daily lessons of the teacher of anatomy and physiology supply. It is scarcely possible to imagine an honest

open intellect not filled with admiration, when first made familiar with the construction of the eye, the ear, or the hand, the architecture of the skull, the mechanism of the heart, the valves of the veins and the like. But a reaction of feeling by and by follows.

In the First place, certain of the accompaniments of anatomical study are not such as are most favourable to the cultivation of emotions of reverence. The wonderfulness of life can in many respects be fully studied only in the dissecting-room; but it is not best appreciated there. The ghastly, corrupting carcass on the anatomist's table, seems rather to forbid than to encourage admiration or awe. Why trouble ourselves in searching out and adoring the beauty of life, when the end of it all is this horrible loathsomeness? Better far that the dust of the earth had remained dust, or had changed only into beautiful minerals, or graceful flowers, than that it should have passed into a thing so revolting and vile as this! This feeling is as natural as the one which for a time it altogether displaces; but it should be taken along with that other feeling, not permitted to usurp its place.

It is a startling truth, assuredly, that the end

of all corporeal beauty should be the most forbidding ugliness, and that the stately temple of man's graceful body should become a thing hateful to every sense. The moral aspect of this strange truth I will presently return to; but, in the meanwhile, I seek to urge on the younger students present, not to let it banish the other truth already referred to, as in sensitive and imaginative natures it is liable to do. We must not lose sight of the glory and gracefulness of the living body, because the aspect of the dead one horrifies us. The ruin may be hideous, but the unruined edifice was perfect, commodious, beautiful, and stately. And the greatness of the contrast between its first and its last condition, may help us the more fully to appreciate the multitude of marvellous beauties which the destroyer has so utterly effaced.

That a perception of both truths is quite possible, many doubtless of the senior students daily realise. Ask John Goodsir or John Struthers if their dissecting-room experiences have made them indifferent to the proofs of design which the bodies of animals afford; or rather do not ask them, for their whole works by anticipation reply.

The late famous anatomist of this school of medicine, Barclay, a hard-headed, clear-thinking, rather rough-mannered man, not at all addicted to give public expression to his religious emotions, once a-year, when he completed the demonstration of the bones of the head, and just at the close of his lecture, as the class was rising, pointed to the skull he had been describing, and said, "So you see, gentlemen, there is a God!" He prefaced this sudden utterance by no remarks formally preparing his hearers for receiving it. He paid his class the just compliment of believing, that through the minds of the more thoughtful at least, a train of reasoning had been passing similar to that which occupied his own mind, and he troubled them with no more than the conclusion to which he believed that they and he had together come.

Such a conclusion, if once reached, will not be easily effaced. By the majority of medical students, the dissecting-room is rarely visited after they take their degrees. The memory of its discomforts soon fades away, whilst the great lesson of design, if once learned there, rises into additional clearness and prominence.

Let those, therefore, who are too sensitive to overlook the discomforts of the dissecting-room, endure them for the sake of the great truths which it can teach to all willing to learn them.

Secondly, From a very different cause the conviction of design is enfeebled in the minds of youthful students of anatomy who are conscientiously desirous to become proficients in medicine and surgery. Their first year of study is, upon the whole, a pleasant initiation into a wonderland of knowledge, but with the second year comes the conviction that the number of mere facts in anatomy (not to speak of other sciences) which the student needs to master is so great, that he must work almost entirely at their mastery, and leave all conclusions but those which are direct and of immediate professional interest, till a more convenient season. Moreover, between the longed-for title of surgeon or physician, and the long worn one of student, is interposed the ordeal of an examination where ignorance of any science will be excused sooner than ignorance of anatomy. With such convictions it cannot be matter of surprise or blame that a student should regard the question of design as only a disturb-

ing element in his studies, and put its consideration far from him. The various points in the conformation of the skull, the brain, the organs of the senses and the important viscera, the course of the arteries, veins, and nerves, and the microscopic structure of every tissue must be more or less perfectly learned. And to learn them implies the study one by one of many thousand facts, each of which, in order to be studied, must be isolated and considered either as if it had no relation to other facts, or at most in its simplest relation to them. Such a mode of investigation necessarily excludes all thoughts of the human organism as a whole, the parts of which are subordinated to a system. The student is in the condition of one who can no longer look at an edifice with the eye of an architect interested only in its design, and indifferent as to the quality of its materials, and the exact shape of its doors or windows ; but must, with the anxiety of a builder following a working-plan, study the size, shape, and quality of each stone, the course of each chimney and water pipe, and every other item, however insignificant, which is essential to the integrity of the edifice.

I sympathize keenly with the student thus chained down for a season to mere facts, and count him excused, whilst thus occupied, from the study of final causes. He has indeed no choice, for as soon as we concentrate our thoughts on any science in its relation to some issue near at hand, we throw our mental eye out of focus for its more remote relations, and many a one has permanently become intellectually short-sighted thereby. But this condition of things should be but a transient one with the student. He may have no alternative whilst rowing across the gulf which separates the Alumnus from the Medicus and Chirurgus, but to row with his face turned away from the land of freedom and promise towards which he is rowing; but if he row stoutly, he will soon be on the shore, and free to gaze all round the horizon; and even whilst toiling at the oar, he may often find time to turn his head and refresh his eyes, by a glimpse of the distant hills towards which he gazed from the shore he is leaving, and which he will be welcome to climb when the shore before him is won. The most busy student has his Saturdays, and Sabbath Days, and holidays, when, without any harm to his progress in the

practical details of medicine, he may recal the conclusions which, at an earlier period in his student-life, he has reached in reference to the mark of God's creative hand on all organisms. He will often, also, hear expositions in the lecture-room which, whether intended or not to have the effect, may keep alive his faith in God the Creator. And at worst he need not slay that faith, but only consign it to slumber till, crowned with the long-coveted honours of his profession, he can awake it and nurse it into fulness of being.

Thirdly, The hindrances to a hearty belief in the body of man being a monument of Divine power, wisdom, and mercy, which the revoltingness of that body when decaying, and the intricacy of its structure at all times present, are as nothing compared to the hindrance I have now to mention. An enthusiastic student will soon find the dissecting-room a pleasant place, and the many minutiæ of anatomy will not deter a diligent one from pursuing it in all its relations. But when the young student first visits the hospital, his faith in God as the wise and merciful designer of man's body, must, in sympathising natures, undergo a painful shock.

He goes round the wards, we will suppose, with an intelligent senior, who describes to him the more important cases. Here is one patient propped up with pillows, and panting for breath. He has not lain down for weeks, and the dread of suffocation which looks out from his strangely anxious and imploring eye, compels him to snatch what repose he can in his uneasy posture. He has, as the senior explains, "disease of the heart." Certain of its valves are not fulfilling the purpose they were designed to fulfil, and hence his sufferings, which death only will terminate.

Here is a second, trembling lest you touch his bed clothes, and quivering from time to time with scarcely endurable agony. He has disease of the knee-joint, and the senior whispers will have his leg taken off to-morrow. And so that articulation on which the Professor of Anatomy expatiated in special lectures as abounding in the most skilful arrangements for combining strength, flexibility, and rapidity of easy motion, has suffered such destruction, that it is not only useless, but so injurious, by neutralising or deranging all the otherwise healthful, life-sustaining arrangements of the

body, that it must be removed, however harsh and perilous the process be.

Here is a third, haggard and wan, beseeching the doctor for more laudanum, as he has no rest night or day. He has cancer of the stomach, and will linger long before death release him from his sufferings.

Here is a fourth, a virtuous and once a beautiful woman, but *lupus* has eaten away half her face, and the disease is still spreading.

We will look at but one case more. It is a relief to the student to turn to it, for the patient has a bright eye, and says with a smile, though his breath catches a little, that he is better, and feels that he needs only the air of his native hills, to which he is presently going, to make him all well again. He is far gone in consumption, and has not many days to live.

The cases I have selected from diseases, which are not necessarily the result of transgression of the physical and moral laws under which we are placed, are doubtless extreme ones, but it is exactly such that strike a student on his first visit to a hospital. And though extreme, I need not tell those present that they are not rare. A visit to any large hospital will

exhibit them all, or if any are wanting, their places will be found supplied by others as severe, as painful, as forbidding, and as much shewing, or appearing to shew failure or defeat of merciful design. And if our student visit a special hospital where all the cases are of one kind, the apparent failure will be still more striking, from the cumulative force of the multiplied examples. Suppose a lecture on the exquisite adaptation of the lungs for respiration, delivered to the patients of a consumptive hospital; or an exposition of the perfection of the eye as an optical instrument to the inmates of a blind asylum; or a discourse on the harmonious mutual dependence of the functions of the body to a man tortured by stone.

I have fancied myself giving such prelections; and how my tongue clave to the roof of my mouth, and the consumptives coughed me down, and the blind people caught up their sticks as weapons of offence, and the sufferer from stone begged me to take his place for a few minutes, and see what I thought then of the harmonious mutual dependence of the functions.

The facts I have mentioned are unquestionably startling and sad. They drive some

altogether from medicine as a profession. They tempt such as prosecute its practice to abandon it. Fortunately for those who continue in its ranks, the first painful impressions which the spectacle of great suffering occasions, become like other first impressions, deadened by repetition. Other impressions, also, come in to lessen their effect. The selfish and unreasonable complaints which sufferers too often make, produce a diversion in favour of the spectator's feelings. Among the daily incidents of even the saddest sick ward, amusing events occur to lighten the tragic darkness which otherwise prevails. The convalescents are ready to cheer and assist the distressed. The medical attendant has the unspeakable comfort of knowing, that however mysterious may be the origin of the anguish around him, he can generally do something to lessen it, and often can entirely remove it. And the patient is not seldom ready to declare, that the moral gain to him from his sufferings has been such that he counts them a small price to have paid for such a reward.*

* The first surgical operation which I saw performed in the Edinburgh Infirmary, soon after becoming an apprentice there, was the amputation of a sailor's leg above the knee.

But, important as such aspects of suffering may be, in lessening its painful pressure upon

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The spectacle, for which I was quite unprepared, sufficiently horrified a boy fresh from school, especially as the patient underwent the operation without the assistance of anæsthetics, which were not introduced into surgical practice till many years later. Some days after the operation, when the horror of the first shock had passed away, I resolved to visit the poor fellow, who happened to be a namesake, and see if I could render him any little service. I went, however, with no little hesitation, expecting to find him in the same state of suffering and prostration as I had seen him in before, and fearing that I should only distress myself without doing him any good. I was agreeably surprised, however, and indeed amused, to find the invalid half propped up in bed and intently occupied with a blacking brush, borrowed from the nurse, polishing the single shoe which in six weeks or a month at soonest, he might hope to wear. I could not help smiling in his face, and wishing him a speedy return to his shoe, which at once became the text of a cheerful conversation. The ludicrous inappropriateness as it then seemed to me of the patient's occupation relieved my feelings, and its perfect appropriateness as it seemed to himself, relieved his; for, as I learned more fully in subsequent conversations, his great concern was to count the hours till he should reach a fishing village in the south of England, where his mother and sister longed for his return. He made an excellent recovery, and reached his home in safety. After this experience, I became a constant visitant on my own account to all the wards, and in the course of four years made many a strange acquaintance. I refer here to the circumstance, that it may become the ground of an earnest recom-

the hearts of those who witness it, they do not logically dispose of the difficulty which its existence puts in the way of full faith in the argument for design; neither do they readily or strikingly impress young students, or otherwise than gradually affect the convictions of any. Moreover, the student may fairly regard the problem before him, not as that of *disease inducing suffering*, but of *disease frustrating design.* Though a phthisical lung occasioned no inconvenience to its possessor, it would be a perplexity to the student of final causes as a derangement or failure of the apparatus essential to the oxygenation of the blood. Though a diseased heart were neither the seat of pain, nor the cause of suffering in other organs of the body, it would be a problem to the Teleologist as a hydraulic engine, which by the wrong action of its valves, was misdirecting the cir-

mendation to the young student who is distressed by the spectacle of suffering, to interest himself in the welfare of the sufferers. A feeling which may otherwise readily grow morbid, is turned into a wholesome and profitable moral exercise. The text sculptured on the front of the Edinburgh Infirmary, "I was sick and ye visited me," has a blessing in it for the visiter as well as the visited, as our Saviour emphatically teaches, and as all who have obeyed its implied command have realised.

culation of the blood, and by the exalted momentum, and frequency of its stroke, was destroying itself, and injuring all the other organs of the body. In truth, we cannot, during the life of an organism, discover otherwise than imperfectly, to what extent design has really or apparently failed; and when death comes, it cuts the knot which we had vainly tried to untie so far as the problem of suffering is concerned, and leaves us a painless body, which the very spirit that has left it might dispassionately study as a machine in some way marred and disqualified from fulfilling its original design.

Let us then put the thought of pain aside, and look at each diseased body as a watchmaker may look on a deranged chronometer sent to him for repair. Let us further concede to the student sceptical of design, that, instead of enduring for three score years and ten, the majority of human organisms fall into hopeless disrepair in a half, a fourth, or a tenth of that period, and that the pathologist has some morbid phenomenon to point out in nearly every body laid upon the anatomist's table. Let us further walk under his guidance round the museums of

pathology, and scrutinize with him all the misshapen limbs, and disorganised viscera, which, in his strange enthusiasm, the pathologist styles "beautiful" specimens of disease. And having done so, let us not affect smooth phrases, or try by nicely turned sentences, to evade acknowledging that a stiff joint, a blind eye, a deaf ear, a palsied hand, or a hypertrophied heart is justly termed a useless, imperfect, defective, or disordered piece of workmanship which has failed of its design, if a moving joint, a seeing eye, a hearing ear, a working hand, or an unpalpitating heart be justly termed a perfect piece of workmanship which admirably fulfils an exquisite design. It may, as in truth it does, become us when speaking of the works of God to let our words be few, whether in the way of praise or blame; but let us not stand up to affirm to others that Good is good, and refuse to listen when they reply that Evil is evil. God has not asked this at our hands, and will not thank us for such mockery.

Are we compelled then to abandon our faith in design? Let us see. In the first place, how was the notion of such a thing acquired? Had the earlier anatomists the privilege denied to us

of dissecting immaculate bodies? So far was this from being the case, that their opportunities for anatomical study were far fewer than ours. The bodies of criminals executed in the fulness of health and the maturity of their physical powers, have been examined by many of the living supporters of the argument for design. Deaths on the battle-field have been still more prolific of examples of undiseased bodies; and the records of civil hospitals, and of private surgical practice, abound in illustrations of deaths from external violence which left the greater part of the frame uninjured, to witness to its original integrity and beauty.

Let us choose then between the alternatives which alone are open to us:—Either, 1. Certain human organisms which are more accessible after death to us, than they have been to our predecessors, were in life absolutely healthful, and are perfect monuments of design, whatever may be the case with the bodies of those who died of disease; or, 2. Those organisms, like all others, were in some respects diseased, and our doctrine of design has no corresponding reality in nature. If we choose the first alternative, then, there do exist certain faultless

examples of design, and we must acknowledge its existence, in whatever way we dispose of the many real or apparent examples of its failure. If we choose the second alternative, and admit that the morbid anatomist finds something to claim for his science in the least morbid body, then it appears that it does not need a faultless example to convince us of design, for it must be acknowledged that in spite of disease, the great majority of mankind have always possessed a firm and lively faith in final causes. This faith has been born and grown to maturity, in spite of no one being able to find for himself or shew to others a perfect illustration of the object of his faith. Nor is this faith the fruit of any sophistical juggling of themselves by men willing to be deceived. It is the conclusion to which the clear eye of common sense has led mankind. In truth, paradoxical though it may seem, we must accept both the alternatives named above. On the one hand all human organisms, even the most highly endowed, are imperfect, and only partially fulfil the end for which they were created, so that our proof of design always falls short of an absolute demonstration. On the other hand, the most diseased

or abnormal body is to so great a degree perfect, that it forces upon us faith in design.

All that we can be called upon in either case to do, is to admit design to the extent that it is manifested; and in neither case can we excuse ourselves for refusing to admit its existence to the extent of its manifestation. The difference in this respect between the most healthy and the most diseased body, is one only of degree, so far as the question is one merely of logic. Judge of this for yourselves, putting, as we have agreed to do, the entire problem of suffering during life out of consideration. Anatomy and physiology would be, even in their practical bearings, almost impossible studies, if disease did more than very partially mar design. The bodies, upon which are demonstrated to you the structures of the human frame, are in the majority of cases the remains of those who died of disease, and they retain the permanent marks of its action. Yet after all, how much has disease left unmarked. Every soft organ of one body may be the seat of tubercular deposit, and nevertheless the skeleton is so perfect that every bone and joint may be fully studied. One or more bones of another may be diseased,

but all the nerves and blood vessels are intact. In a third, the heart is hypertrophied or ossified, but the other muscles are perfectly normal, and the organs of the senses present themselves of unusual beauty. In truth, it requires, after all, so small an amount of organic change to kill the stoutest man, that many a corpse seems to the ordinary eye without a blemish; and others, if you except the one fatal mark which some single organ bears, have no morbid sign upon them. So much is this the case, that I affirm, without fear of contradiction, that a few rare cases excepted, the majority even of diseased bodies present far more examples of amply fulfilled design than they do of its real or apparent failure.

It is impossible, then, to neutralise the proofs of design in the structures of the human frame by adducing proofs of imperfection in it. We do not so judge the works of men. Paley's famous watch, even if it had been the choicest Greenwich chronometer, would have proved, on inspection, full of imperfections. Not one of its wheels, we may be sure, was perfectly circular. No two of the teeth on their circumference were of the same length. The spring was unequally

elastic in different parts: the letters on the dial were not straight, and the halves did not close together exactly. Yet Paley most justly reasoned that no intelligent person could for the first time examine such a watch, and doubt that it was the work of a human or other agent who had devised it to execute certain movements, which it did perform with great regularity. It is quite true, that hitherto it has been found impossible to construct a chronometer which shall be an unerring time-keeper, but even an ordinary watch keeps time so well, that all acknowledge it to be a remarkable monument of human power, wisdom, and skill; and though it has been proved equally impossible to discover a human organism without a blemish, and most organisms have many, yet the most blemished among them proclaims itself to have been fearfully and wonderfully made, by none less than the Divine Maker.

You must not then abandon faith in design. Disease is disease, and imperfection is imperfection, but design also is design. I shall return to the two former presently, but once more let me plead with you in behalf of the last.

Let me suppose that we all with undivided

purpose set about demonstrating the fallacy of the doctrine that the human body displays Divine wisdom and skill. To prove that our hands are clumsy, mis-shapen, purposeless, imperfect instruments, we construct by means of them, after following a lengthened series of processes involving many of the nicest manipulations, certain cutting knives or scalpels, and other apparatus, which we think do us much credit as ingenious devisers and constructors. With these, as dissecting instruments, we anatomize the fingers of dead men, and are thereby enabled, it should seem, to shew that though those instruments do us credit, our hands which made them do their Maker (if in truth they had a maker) no credit, either in design or execution. To help us in this hopeful undertaking, we fashion, after multitudes of failures, a very imperfect copy of our eyes, which we call a microscope, and looking through it at dead eyes, are able to demonstrate that our own living eye is as fortuitous and unsuccessful a piece of mechanism, as we have already triumphantly proved our hands to be. Encouraged by this success, we further employ our useless hands and eyes in making a rude

imitation of part of our ear, which we call a stethoscope, and by means of this have the satisfaction of ascertaining that the hearts of living men are ill-contrived pumping engines, and that their lungs are indifferent bellows. By the patient use, moreover, of each of our faculties, and the prolonged exercise of all the organs of the senses, we discover how to construct apparatus which shall effect the analysis of chemical substances, and thereafter by distilling the brains of men in retorts, and calcining their bones in crucibles, and boiling their muscles with acids, we have, as it appears, the comfort of learning that our brains, and bones, and muscles, are useless, accidental jumbles of many very ordinary ingredients.

Truly those are strange conclusions, and the nature of the road which we have been required to travel in order to reach them, is proof sufficient of their absurdity. Our useless hands must be rendered pre-eminently useful before we can prove that they are utterly useless, or only by chance the opposite. Our blind eyes must exercise the clearest vision before we can prove that we are not entitled to see with them. We must weary our brain with thinking, weary

our limbs with working, see and hear, and speak and taste, and touch and handle, whilst we provide ourselves with those instruments of scientific research, by means of which we are to shew that our brain was not intended to be an instrument of thought, or our limbs instruments of work, that we have no business to be seeing, hearing, speaking, tasting, touching, handling, or if we have, it is because we have acquired the power by chance, by use and wont, by practice, or I know not what, but by something else than original birthright or deliberate design.

I have been obliged, for brevity's sake, to put the argument in an extreme and unrounded shape, but it is worth your consideration. If the loathsomeness of the dissecting-room, or the intricacies of anatomical study, or the anguish of the hospital, ever tempt you to shrink from, or ignore, or deny the existence of design, turn from the dead to the quick, from the pathological specimen to the pathologist, from the agonized sufferer to your healthful self, and bid your distracted spirit become the disciple of your free body. One glance across the daylight landscape, or the midnight sky, with those bright eyes of yours, one feat of dexterity per-

formed by those nimble hands, one race won by those swift feet, one song sung by that cheerful voice, with the most passing thought of the wondrous mechanism which has been called into play to execute your will, and you will ask God to forgive you, that you ever doubted that he was your Maker and Preserver.

And now to return to disease: if the frustration of design still appal you, and foreseeing that your turn to illustrate its frustration is coming, you shudder at the cruel victories which disease wins, remember that its triumphs are less striking than they often seem. Death makes woful ruin of all the glories of design, yet death in itself does not contradict it. The life of every mortal creature runs round a cycle and then ends, or changes into a higher life. The death of a plant which has lived out its allotted season contradicts no law of its being, and disappoints no matured expectation of ours. Neither does the death of the caterpillar, which dies into a chrysalis, nor the death of the chrysalis, which dies into a butterfly, nor the painless death of the butterfly, even if it have not provided for the continuance of its race. Nor does the death of men when they die in peace, full

of years, and put off this mortal, only that they may put on immortality. It is the *premature* death of the great majority of mankind which perplexes us, and the suffering which preludes and accompanies the path of nearly all to the tomb. This prematurity and agony of human death are awful problems, altogether beyond the power of secular science to solve; nor do I desire for one moment to deny that they formidably conflict with our faith in design. Yet it is the case that they cause the proofs of design to stand out in greater prominence against the dark background which they supply. Consider only that the living generation of men is the smitten remnant of the whole race of Adam, and that our blood is more or less poisoned by all the distempers which have afflicted the thousands of generations who have gone to premature graves before us, and then look at what we nevertheless have done and are doing as workers. Steamboats, Railroads, Locomotive Engines, Lighthouses, Electric Telegraphs, Crystal Palaces, Lancaster Guns, Floating Batteries! These, and a thousand other things are our handiwork, and they prove that we are more wonderful machines than any one of them, or all of them together. If the

steam-engine be a monument to the wisdom, skill, and power of James Watt, what a monument is Watt himself, of whom the steam-engine was but one invention, to the wisdom, skill, and power of God, who gave him the ability and skill to construct not only that machine, but hundreds of others. All man's works, even his wicked ones, considered simply as shewing inventive and constructive skill, first praise him, and then through him lift a higher praise to God who made him.

If therefore in sad moments you are sceptics as to design, and find no reassurance in contemplating your own vigorous bodies, turn to the nearest piece of human handiwork, palace, or church, or railway bridge, or ocean steamer. Each of these is the Realised Idea of multitudes of beings, every one acting as a wondrous automatic machine, skilfully realizing the end for which it sets itself in motion. And who are those beings? Not angels, or demigods, or demons, or men retaining Adamic perfection, or even patriarchs counting one hundred and thirty years a short span of life, but men of like passions with ourselves, the decimated inheritors of all the weaknesses of their race. Yes, in spite of it all, Anglo-

Saxon and Celt, Teuton and Russ, are with us to-day, to build palaces of peace, and equip fleets of war, to fight battles of the Alma, to defend and to take Sebastopol. The indelible marks of God's fashioning and preserving hand are on every man, even the weakest and frailest, and will be found on all the sons of Adam to the end of time.

The argument for design, then, is one which cannot be gainsaid, but there is a great difference between a logical conviction and a living faith, and multitudes, without denying design, practically disown all belief in it. Is it worth while, then, cherishing the belief that God has wondrously endowed the bodies of us and of other animals, or may we as well cast the belief aside? Are there not facts which, though not logically disproving beneficent design, yet run so counter to it, as to make it not only difficult, but even distasteful to believe in it? So it is asserted. Let us consider, then, certain questions which will bring these alleged facts before us, including, for a brief space, other creatures besides man in our discussion.

I. *Are all the organs, or parts of an animal useful to it?* To this the answer assuredly must

be, that, so far as we perceive, they are not. A failure to recognize, or at least to admit this, is alleged to be the great fault of the school of Paley, against which, in several quarters, a strong reaction has arisen. Now, although Paley himself, I think, is undeserving of this charge, I cannot say the same of all his followers. It is quite true that various of them have looked at living creatures as only so many isolated machines, constructed to serve a few utilitarian ends, and have prated regarding those ends in a weak and dogmatic fashion, which has rendered the whole argument for design hateful to many. Men of wide sympathies have tired of hearing the most wonderful organisms discussed as if they were mere products of the workshop; and men of a scornful or satirical temper have sneered at the absurd uses which have been assigned to organs by those who, forgetting that they were dealing with the works of God, insisted on their power to explain every part of them. The controversy has come to a height in the endeavour to marshal against each other, as directly opposing and contradictory systems, the *Doctrine of Final Causes or Teleology*, and the *Doctrine of Unity of Organization*, one of the great principles of *Morphology*. The Morphologist who thus

battles with the Teleologist, does not in so many words affirm that the organs of animals were not destined to be of use to them; but he contends that their configuration and structure in any single creature, are so subordinated to a general law of organization, which has reference to far higher things than the special wants of individual living organisms, that it is extravagant to speak of peculiar divine provisions for the gratification of these wants. It is only profound anatomists who can discuss the relative bearings of morphology and teleology, and it would be presumption in me to attempt such a discussion. But I may, without presumption, offer you a brief judgment on the question of the compatibility of Morphological generality, with Teleological speciality from a Technologist's point of view. Before doing so, however, let me remind you that many of the greatest living morphologists, such as Richard Owen and John Goodsir, find the fullest harmony between morphology and teleology.

In the first place, then, there can be no question that all endeavours to account for the existence of every organ in a particular animal, by a reference merely to its *use* to that animal,

will prove fallacious; and as the discussion must be brief, I will add, that the aesthetic grace of a useless organ, such as perhaps the crest of a humming bird is, will only, in certain cases, excuse its uselessness. Such organs as the teats in male animals, the teeth in the jaws of the fœtal whale, the perfect skeleton-hands tightly bandaged within the fingerless glove of the seal's flipper, and many other organs familiar to us as occurring in the bodies of animals as well as in that of man, are of no discoverable use to their possessors, and do not appreciably add to their beauty. I have no sympathy with those who pronounce it irreverent to call any of the organs of an animal useless; because, in the first place, I see not why it might not please God to confer upon a creature organs useless to it; and secondly, we are not affirming that they are useless for all purposes, but only that they are useless to their possessor, which may be the very condition of a higher utility. Moreover, we only say that they *seem to us* useless to their possessor, not that they certainly are.

On the other hand, however, before passing on to the main argument, let me notice that there is a remarkable peculiarity about the

majority, at least, of those seemingly useless organs. They are not hurtful to their possessor, not unbecoming, and not fantastic. In reality they have the stamp of utility upon them, only they are in relation to the animal, if I may use the phrase, right things in wrong places, or right things at wrong times in right places. The Greenland whale, for example, has no use for teeth at any period of its existence, and least of all before its birth; yet teeth are among the most useful of animal organs, and it is in the jaw of the unborn whale that they are found.

The fingers of the seal are of no use to it, but they are excellent fingers, and could we, as it were, unbandage and unglove them, they would prove most admirable digits. It would be easy to multiply illustrations of this fact, but you will not doubt it, and surely the conclusion from it is not that such organs, because they are often rudimentary, are defects or botches, and entitle us to pass upon the creatures exhibiting them the judgment which Richard III. passed upon himself:—

> "I that am curtailed of this fair proportion,
> Cheated of feature by dissembling nature;
> Deformed, unfinished, sent before my time
> Into this breathing world, scarce half made up."

In truth, the structures to which we have been referring, exhibit not failure but excess of design. The Greenland whale has no permanent teeth, but as if to shew that this is not because they were grudged it. either from want of will or power to bestow them, they are arranged in its mouth for a season, and then replaced by an organ quite as wonderful as the teeth, for which it is substituted. And so, if the fore-fin of a seal seem a mere paddle or rowing oar, a little inspection shews that it is not so because the desire or ability to make it a hand was wanting, for it is a perfect, though gloved, hand; and the gauntlet is never thrown down, only because its wearer has endowments which are enjoyed by no free-fingered, naked-handed mammal. Those creatures, and a hundred others, are like ancient knights who had vowed to wear their visors always down, but behind whose barred helmets were bright eyes and manly faces. I think, accordingly, that the older teleologists, although ignorant of morphology, were quite justified in considering rudimentary organs as in no degree conflicting with the doctrine of final causes, which I have sought to shew they may be held to sustain. But the profound observations of

recent anatomical morphologists, have brought to light relations of structure among different animals, and among different parts of the same animal, such as it would be idle to pretend can be explained merely by a reference to the wants of the single animal. I gladly accept the explanation of structures inexplicable in themselves, and serving no conspicuous good, or evil purpose, occurring in single animals, which is furnished by a recognition of the fact, that a mighty plan has been followed in the organization of all creatures, no one of which can be understood if studied only by itself.

Let us take an example to illustrate this point. If we examined one by one, the hand of a man, the paw of a lion, the wing of a bird, the flipper of a seal, and the fin of a fish, we could shew how admirably they severally served for handling, grasping, flying, rowing, and swimming; but if we went no further we should leave many peculiarities of structure unconnected with either good or evil purpose in all of them.

Let the morphological homologist now take up the same organs, and he will shew us that they may all be represented as modifications of each other; the wing being a hand with certain

of the fingers elongated and expanded, or if we choose so to express it, the hand a wing with the fingers shortened and brought close; the flipper a hand with the fingers contracted and bound together, or the hand a flipper treated conversely; or, best of all, the whole of the organs in question may be looked upon as modifications of one ideal archetypal form, and many of their structural peculiarities may be explained by a reference to this relation, which cannot be accounted for by a reference to the use which its living possessor makes of the organ exhibiting them.

At this point, a mistaken pupil of the homologist turns round upon the teleologist, and says, "your doctrine of final causes thus is worth nothing. Instead of each animal having been specially constructed with a view to its individual wants, each is but a fractional item in an immense whole, and has been fashioned and endowed in relation almost entirely to the part which it plays in that whole."

Now that this reasoning, at present much in vogue, is false, and that if the human eye, for example, considered by itself, demonstrate the operation of final causes, no exposition of its

homological or other morphological relations, can overturn the demonstration, allow me to illustrate by a reference to certain objects of human workmanship.

Suppose an intelligent stranger totally ignorant of glass, and of glass-making, to be shewn for the first time articles of glass, one by one. He admires a window pane as a beautiful contrivance for admitting light, and shutting out cold, and wind, and rain. He admires a glass bowl, such as a finger-glass, as an admirable combination of lightness, gracefulness, strength, and cleanliness. He admires a glass basin as an ampler exhibition of the good qualities of the bowl. Then he admires in succession a tumbler or beaker, a decanter or bottle, a funnel, a wine glass, a chemist's retort, a barometer tube, a thermometer, and a Florence flask. Each, he heartily acknowledges, excellently answers the end for which it was made. Each is a tribute to the wisdom, skill, and power of the glassmaker. The purpose which this artist had in view in fashioning each article, the Final Cause of its form and qualities, so far as he was disposer of these, are all discernible by the admiring stranger, but, for the time, he goes no further.

Suppose, however, that at a later period he is taken to a glass-house, and told on the threshold that all the objects which he has singly admired as separate human creations, are in reality modifications of each other, or derivative modifications of one common form. He is startled, but the proof is offered him. The common or archetypal form, as the glass-worker shews him, is a hollow ball or egg-shaped vessel with a neck like the Florence flask. Is a thermometer wanted? then the neck of the flask is developed or elongated. Is a barometer? then the body of the flask is absorbed or suppressed, and the neck only elongated. A retort is shewn to be but a large thermometer with the tube bent upon the bulb; a funnel but a flask with the base absorbed away or opened; a bottle or decanter an elongated flask with a flattened or arched base; a tumbler, a beaker, a bowl, and a basin, the bodies of flasks of different sizes; a wine-glass, the body of a small flask attached to a foot and stem; and, most unexpected of all, the very window pane proves to be also a flask, which has been whirled when it was hot till it has opened out into a sheet, or has been truncated, split on one side along

its length, and allowed to flatten. In short, it appears that as the botanical morphologist describes endless organs of plants as but modifications in different ways of *a leaf and a stem*, and the anatomical morphologist describes multitudes of bony structures as modifications of *a rib and a vertebra*, so the vitreous morphologist can describe the objects of his study as modifications of *a tube and a ball*. Would a demonstration of this last truth destroy, or even weaken, the spectator's admiration of the skill, power, and wisdom of the glass-blower? Would it not exalt that admiration? If a slight difference in manipulation make the same piece of molten glass become a window pane rather than an oil flask, whilst the glass has no more natural tendency to become the one than the other, surely the greater credit must redound to the manipulator who compels the indifferent raw material to obey his will, and changes the same hollow ball into a thermometer or a funnel as he pleases? The argument I urge is, after all, as old as St. Paul: "Hath not the potter," asks he, "power over the clay, of the same lump to make one vessel unto honour, and another unto dishonour?" And the in-

ference is that the power is with the potter, not with the clay.

If the same bones, by a small change, can become hand or paw, or fin or wing, is not the proof of special design all the stronger, and our admiration all the greater that in man these bones always appear as a hand, and in the lion always as a paw; that the bird never exhibits a fish's fin, or the fish a bird's wing? For my part, I welcome the beautiful discoveries of morphology, as enlarging and exalting, not restricting, the domain of teleology. I am the more struck with the proofs of design, when I learn that the Creator has, to speak with all reverence, rendered the task of conferring upon single creatures special endowments more difficult to himself, by making each but an infinitesimal part of one vast harmonious whole, and yet find each separate organism as perfectly endowed to fulfil the end of its being, as if God had had no other creature in the universe to provide for but it. And further, the homologies and analogies which link creature with creature, and make man and the lion, the eagle and the swordfish lay hold, as it were, of each other's hands (or quasi-hands), as in one

sense children of a common father, furnish a proof of the unity of nature of the universal Creator, such as no isolated study of single creatures could ever supply.

All the organs of an animal, then, may not be useful to it, but it is none the less a monument of design.

Let us now pass to another question.

II. "*Are all the organs or functions of animals graceful or becoming?*" Here again the answer must be No. The subject is not one on which I can enlarge, but in its moral aspect it is too important to be left unnoticed. I will therefore simply appeal to you, whether you do not realise in your experience a strange dissonance between your sense of the befitting and many of the physical phenomena of your daily lives. The mode in which some of the animal appetites and necessities must be met is humiliating. The periodical crises in the bodily functions which the digestion of food and the waste and change of the tissues determine, have in them an unwelcome and forbidding element. The precursors and accompaniments of birth and death, are, in some respects, such as to make us not wonder that an

inspired writer should have declared ours "a vile body." There is nothing morbid in this feeling, although it may readily be exaggerated into morbidity. The Decencies of Life have been sacredly cared for by all wise nations and all moral communities, whether savage or civilized; and a neglect of them has always been found accompanied by brutish ignorance, or gross depravity.

I only glance at this topic, and some optimists would condemn even that glance, and pronounce it an impeachment of the wisdom of God to quarrel with any arrangement which he has sanctioned in our bodies. But such optimism is easily disposed of. We have no fault to find with the utilitarian arrangements of our bodies, but it seems as if grace and beauty had been sacrificed to utility, and our æsthetic and moral instincts rise up in continual protest against the sacrifice. We may believe that it was not made without a good reason, and beyond the domain of secular science we may find a full explanation of the anomaly. But looking at the problem from our present point of view, we must acknowledge that if it be a morbid delusion of ours to suppose that some of our bodily organs and functions are ungraceful, then we save the

grace and perfection of our bodies, only at the expense of the grace and perfection of our minds. This is a less satisfactory scientific solution of the difficulty than to impute imperfection to our bodies, for we know our bodies only through our minds, and as all minds are constituted alike, and all acknowledge the ungracefulness referred to, it is impossible that we should ever be in a condition to shew that the fault lies with our minds, not with our bodies. Nor would it mend the matter if we could, for an imperfect mind is a sadder failure of design than an imperfect body. It is enough, however, to insist that a profound sense of dissonance and incongruity between our minds and bodies in certain of their mutual relations fills every heart, so that if we acknowledge that some of the bodily organs are not, to our apprehension, useful, still more emphatically must we affirm that, including their functions, some of them are not beautiful. Revelation may cast light on the problem by proclaiming that the glory of our first parents had become wofully dimmed before the eldest of their descendants was born. But even revelation adjourns the solution of the problem which it admits, by

recording of Adam and Eve words which we read with reverence and wonder—"They were both naked, the man and his wife, and were not ashamed."

And now another question:—

"III. *Are any of the organs or functions of our bodies, hurtful, painful, or injurious to us?*" —I have asked this question in order, by the reply, to mark a mighty difference between us, and, so far as I know, all other animals. Suffering does not attend the healthy exercise of any of their organs, or of the majority of ours. But there is one mighty exception. How much suffering does every infant's birth inflict upon its mother! The pangs of a woman in travail are an oft-repeated Scripture illustration of the extremity of human agony, and you know that the illustration is not an exaggerated one. The maternal sufferings we witness are no doubt aggravated in many cases by disease, and in normal cases there is always the compensatory joy that a child is born into the world. But why suffering at all? Reasoning simply as *natural* theologians, and multiplying proofs of wise and merciful design, we cannot but admit

that our effort to establish the existence of this in our own wonderful bodies, is traversed and shaken by the fact that every mother is the subject, and every infant the cause of much, as it seems to mere human science, needless and unavailing suffering. We can lessen this a little by our anæsthetics, but how little, if the amount of maternal suffering over the world is taken into account, I need not say.* The subject, however, can only be touched upon.

We will pass then to a fourth question :—

IV. *Are we or other creatures so endowed as necessarily to inflict suffering and premature*

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* Since this lecture was given, I have found the subject referred to in the text discussed with great force, delicacy, and beauty in a sermon preached in behalf of one of the Lying-in hospitals of Dublin by an Irish Protestant clergyman, the late Professor Archibald Butler, a rarely gifted thinker and writer, whose early death all who knew him deplore. The sermon, entitled, *The Advent exalts Human Relations*, is from the text "*And she brought forth her first-born son, and wrapped him in swaddling clothes, and laid him in a manger; because there was no room for them in the inn.*"—Luke ii. 7. It is the 18th in a series (the second) of Sermons, twenty-six in number, and all remarkable, published by Macmillan and Co., Cambridge, 1856.

death on other creatures when obeying our instincts? — To this you will anticipate an affirmative reply. We kill without scruple all creatures that withstand our will, betray enmity towards us, injure our persons and property, or may be rendered available as sources of food, or raw materials for the arts; and we do not merely kill them, but hunt them, delighting to match our instincts, capacities, and powers against theirs, and rejoicing when we gain a victory over them. The relation of man to the lower animals, however, is a very complex one, and it is but a portion of the sufferings inflicted by us on them, which our consciences justify. Let us therefore, to simplify the problem, instead of discussing the permissible and justifiable injury and destruction of animals by man, consider the sufferings and death inflicted by animals on each other; which, as in a mirror, reflect the lawful cruelties of man.

No creatures you know are more exquisitely endowed than those which are carnivorous. They are justly the favourite text of the expositor of design in the structures of animals. We turn from the lamb and the dove, to admire the cruel beauty of the lion and the eagle. These

fierce creatures fascinate us as soldiers do. They are so strong, so swift, so graceful, so admirably armed, so skilful at their weapons, so true in their aim, such unerring smiters and slayers, that we are tempted to forget that though the battle is for them a righteous one, and the victory their just reward, it is *Væ Victis*, sore agony to the vanquished. From remote pre-Adamic ages, the unequal battle has been waging, and it still goes on. That one living machine, in the perfection of its integrity, should be violently taken to pieces, in order that another living machine, on a different plan, may be repaired with its fragments, is perplexing enough. We should be astonished if we saw an architect dismantle a magnificent Grecian temple which he himself had erected and referred to as a proof of his genius and skill, in order to build with its stones a Gothic cathedral; and our astonishment would be increased on learning that it was his invariable practice to regard the temple as the quarry of the cathedral. But in the living building there is not merely destruction of an exquisite edifice, but infliction of suffering. The carnivorous animal tortures as well as devours his prey. I am far from wishing

to affirm that there is excess of torture. On the other hand, I am willing to read a proof of the mercy of God, in the bestowment on carnivorous animals of instincts leading them to kill quickly their prey; yet often the victim itself defeats this aim, and prolongs its sufferings; and it is enough to watch a cat with a mouse to be assured that long agonies are often endured by the innocent prisoner, before it receives the *coup de grace.* Those human victims who have escaped from the paw of the lion or the bear, and those who have left a limb in the jaws of the shark speak sufficiently decisively on this point.

The so-called explanations of this mysterious clashing of one creature's endowments with another, so that the existence of both is rendered impossible, and the penalty of suffering and death is exacted from the weaker, I will not discuss, for none solve the problem, and most only entangle it, nor have we time to discuss any of them. I wish to impress upon you the fact that ages before the appearance of man on the globe, death and pain prevailed. Creatures endowed so as to live for years, were abruptly deprived of life before it was half

spent, in order that the life of others might be prolonged: and creatures whose instincts led them to shrink from pain, were compelled to endure its infliction from more powerful creatures. Design was frustrated: instincts were disowned: and both deliberately. Let us lay this to heart, and acknowledge it to be a great and sad mystery.

One other question will dispose of the only additional point which I can at present consider.

V. *Are we, including other living creatures, so organised as to resist the injurious influence of atmospheric and other external agencies?*

That speaking generally, animals of all classes are organised in relation to the media which they inhabit, is implied in the statement that they exhibit design. If lungs were not suited to the air which they breathe, hearts to the blood which they propel, blood to the gases which it dissolves, feet to the ground which they tread, fins to the water against which they beat, and the whole organism to those agencies of heat, light, electricity, which continually influence it, all the other vital arrangements would be

unavailing. And in truth no chapter in the argument for design is more comprehensive and striking, than that which shews that He who was the mechanician of the animal frame was also its chemist; that He who gave the ruminant animal its complex powers of digestion knew all the properties of the grass which it digests; that the maker of the eye was the author of light, the former of the ear the disposer of sound; that, in a word, the whole of the physical conditions of life must have been known and provided for, otherwise life could not have lasted even for one day.

But this adaptation of living beings to the inorganic agents around them, or rather of the organic and inorganic worlds to each other, has been only partially carried out. Volcanoes, earthquakes, storms, and other great meteorological and geological phenomena have throughout the historic period swept away millions of men and animals. And in the pre-Adamic ages the same causes have led to the destruction of countless multitudes of the latter. In truth, it seems questionable whether any of the extinct Palæozoic races of animals perished by what can be called natural death. They seem, where

not exterminated by other races devouring them or their food, to have been annihilated by great alterations in the relative positions of sea and land, or considerable changes in climate and temperature, or in the local chemical composition of air, water, and the like, rather than by gradually dying out in consequence of the fertility of the race being exhausted. At all events, in the battle with the elements, which all living creatures have continually had to wage, and none more than man, the victory has been often against the creature. The triumphs of sun, wind, and rain, earthquake, tempest, and volcanoes, over animal life and health, and happiness, have been countless. Design has gone for nothing. Length of days has been precluded; and suffering has preceded premature death.

I need not enlarge on this after what I have urged in reference to the infliction of pain by animals on each other. It is another phasis of what, so far as man perceives, is unavoidable and inexplicable suffering. That the Omnipotent could have arranged matters otherwise need not be proclaimed; that He has not established the peaceful, harmonious equilibrium between the organic and inorganic worlds, which might have

existed, we see; but we neither see the end for which this equilibrium does not exist, nor can we complacently reconcile ourselves to its absence.

In summing up this long but imperfect inquiry into the conclusions which the study of human anatomy warrants in reference to the character of God, we have to acknowledge the clearest proofs of power, wisdom, skill, vast purpose, and great mercy, as belonging to Him who has made, and who sustains all things. And I earnestly urge upon you, as a matter of duty, to deepen and strengthen this conviction, which no honest mind, I am sure, can avoid reaching. On the other hand, we cannot deny that our bodies seem to us, in some respects, imperfect; that they have strange marks of humiliation upon them; that even in health they are in certain circumstances tortured by agony, and that they are the subjects of endless painful diseases. We also find similar though less striking indications of seeming imperfection, and of certain suffering and premature death, characterising the lower animals around us.

Mingled good and evil are thus brought before us, nor can we separate them from each

other, and declare, as a conclusion of human science, that all the good belongs to God, all the evil to some malignant demon or mysterious power. What is evil from one point of view is good from another. The jaws and fangs of the lion are most cruel when turned towards the lamb, but most merciful when turned towards the lion. The most gentle of ruminant quadrupeds is constructed on a plan so essentially the same as that followed in the fiercest carnivorous one, that the morphological anatomist cannot for a moment doubt that they are both works by the same hand. He can shew, indeed, in the jaws of the peaceful vegetable-eater before its birth, rudimentary tusks, like those of the feline animal, which by and by disappear, but by their manifestation, even for a short season, prove their possessor to be cousin-german to his devourer.

The good and evil are thus inseparable parts of one system; the evil, like a black woof-thread shooting at intervals across a web otherwise, both warp and woof, of gold and silver. If we stop the shuttle which throws the black thread, the gold and silver threads cease to be woven; if we pull out the black threads, the

whole web is unravelled. Any Manichean doctrine, accordingly, which would divide this world between two creators and sustainers, the one good the other wicked, in continual strife with each other, is untenable. Shall we then rise up and accuse the one Creator and Sustainer of all things, who is the perfection of goodness and full of mercy, of being the Author of Evil? This we will not do.

Shall we rather content ourselves with forgetting, if we can, the evil, and dwell upon the probability that there is much more happiness than suffering in the world? Alas! even if the probability of this were greater by far than it is, it would not reconcile us to the suffering. One drop of poison is enough to make the fullest cup bitter. One aching tooth cheats the Stoic of his philosophy, and the Epicurean of his pleasure. It is but a faint consolation to a man dying of disease of the lungs to believe that his bones are sound. It is poor comfort to the victim of hopeless cancer of the tongue that there are no tubercles in his lungs. It does not come home as a proof of design to a man sinking under disease of the heart that his eyesight is perfect. If there be so much, though

there be no more than one nerve-molecule agonising, the sufferer cannot relieve the pain it occasions, by the thought that the bulk of his body is painless. A little pain considered as pain quite outweighs an immense amount of painlessness, and forgotten or absent joy cannot be recalled or imagined, so as to supplement or neutralise present misery.

> "O who can hold a fire in his hand,
> By thinking on the frosty Caucasus?
> Or cloy the hungry edge of appetite,
> By bare imagination of a feast?
> Or wallow naked in December snow,
> By thinking on fantastic summer's heat?
> O, no! the apprehension of the good,
> Gives but the greater feeling to the worse." *

The small amount of disease or injury which can abolish life, often dwells far more in our hearts than the abundance of the health which such disease leaves uninvaded, or the abundance of wonderful structure which such injury leaves unmarred. Mercutio's mortal wound was but "a scratch, a scratch;" but he added, "Marry, 'tis enough." Romeo could say, "Courage, man, the hurt cannot be much!"

* Richard II. Act I. Scene iii.

and the stricken man, with grim irony, agreed. "No, 'tis not so deep as a well, nor so wide as a church door; but 'tis enough, 'twill serve; ask for me to morrow, and you shall find me a grave man."* Once convince a man that his body is, or might be an exquisitely contrived and orderly machine which should always minister to his delight, and you awake in him the feeling of the Sybarite of old, who complained because one leaf was crumpled in his pillow of roses: much more do you startle and distress him, when you shew him in another the whole head sick, and the whole heart faint, or the entire body disorganised into hopeless ruin.

It is vain then to try to persuade men, that because there is often sunshine, darkness is not darkness; vain to try to hide from them that the saddest of shadows hangs like a shroud over our world. Men know that the shadow is there. Some turn their backs upon it, and declare it is not. Some gaze awe-struck at it till they are driven to despair. But there is a more excellent way. Humiliation, suffering, disease, and premature death, are in themselves hateful realities; but as looked at in the mirror of God's

* Romeo and Juliet, Act III. Scene i.

Bible revelation, they can be regarded with peace, and, as pointed to by the finger of Christ, they can not only be witnessed, but even endured with joy. In that revelation the sad mysteries which we have been considering, are thus far explained, that human suffering and death are taken out of the category in which animal suffering and death (at least as pre-Adamic) are left, and are connected with man's guilt as a race, and the sins of men as individuals. This explanation unquestionably only removes the difficulty one step further back. Why sin should have entered into a world so fair as this beautiful world of ours, and suffering should have fallen on a being so sensitive as man, is nowhere solved as a speculative problem. Thus far, indeed, the Book of Nature and the Book of Revelation agree in their teaching. Both proclaim their author to possess power, wisdom, vast purpose, and great mercy; and both also exhibit him as permitting what to us *seems* imperfection, and as sanctioning what *certainly* is suffering. But there is this mighty difference. The Book of Nature is a joyful, sorrowful epic, beginning in the far past eternity with the happy birth of a new world, and closing with

the advent upon earth of man, the last, the most gifted, and the most miserable of its inhabitants. The Book of Revelation is a sorrowful, joyful epic, beginning with the ruin of man's innocence, and with the earth and all its creatures cursed for his sake, and closing with the farewell of the Son of God, as he returned to heaven with the promise that he should come again to make all things new. The great object of Revelation is to make known to us this divine being, the great Destroyer of Evil, and abolisher of suffering; and all inquiry into the character of God, all study of the nature of man, must be incomplete till we know Him who was at once the Son of God and the Son of Man. The Bible speaks of Him as one to whom the anguish of this earth has been matter of profounder meditation, than to any other being in the universe. It speaks of him as one to whom the cause of this anguish is not, as it is to us, a mystery at all. It speaks of him as one who has himself found a cure for mortal sufferings, and invites us to come to him, however weary and heavy laden, and he will give us rest. It makes certain his experience of our wants, for it testifies that he was tried and tempted in all

points like as we are, and it assures us of his boundless compassion for our woes, by recording of the unexampled sufferings which he underwent, that for us, not for himself, they were all endured. It offers him to us as an example in all things, a perfect man, the one perfect man, the one sinless human being. It adds that to this unique and unapproachable human perfection, was added in the fullest reality, all the glory of perfect divinity, so that he is as able as he is willing to help all who come to him. And he is not only wise with the wisdom of omniscience, but wise with the wisdom (if such daring words be permissible) of experience in workmanship, for He made the world, and without Him was not anything made that was made. He alone can tell us why creatures were constructed by Him on one plan rather than another. He alone can tell us all that we can receive concerning the mystery of defect, of suffering, of evil. He alone can appease our unquenchable longing to be something more than we can be on this earth, can forgive us our sins, grant our consciences peace, purify our hearts and ennoble our lives.

In connection with the account which the

Scriptures give of Christ, there are five points which bear specially upon the subject we are discussing ;—

1. The most perfect human body we see is a marred and imperfect one. In what way and to what extent our bodies, even when healthiest, differ from those of our first parents before they disobeyed God, and fell from their state of innocence we are not told ; but we all bear upon our persons a mark like that of Cain, at once a sign of God's hatred of sin, and of his mercy for the sinner. In all our judgments, therefore, on the organism of man, we must keep before us the fact that the object of our study is but a *torso*, the mutilation of a once faultless sculpture, and that we, its students are also torsos, imperfectly discerning even the perfection that remains.

2. The pangs of maternal travail, in themselves so inexplicable to natural theology, are solemnly pronounced by Revelation to be the penal memorial of Eve's great crime ; and disease, and premature painful death are declared to be the adjudged punishment to the end of the present dispensation of man's first disobedience, and the sins which all his responsible children

have wilfully committed. This is a hard saying if we take it alone, and try to connect individual suffering with individual sin, but taken, as applying to the race, it is an explanation, though it may be no alleviation of the woes which every generation endures.

3. Marred and sin-maimed though our bodies may be, a humiliation, or burden, or living agony to ourselves, they have still, as the Bible continually repeats, the seal of God upon them. He made them, and, defaced though they are, refuses not to sustain them; and Christ ministered to them, and healed them, and raised them from the dead, and gave them even on this earth life again; so that we mock God and disown Christ if we despise or dishonour them. Our bodies have thus a strange worth in the eyes of God, and we must guard against any feeling that would make us appraise them at a lower value than that set upon them by Him who made them.

4. Christ crowned our bodies with honour, for he wore himself a mortal body. He did not despise the Virgin's womb. He was made of a woman made under the law. The holy, harmless, undefiled Son of God, upon earth hungered,

and thirsted, and wept, was a man of sorrows and acquainted with griefs. His was a true though a sinless human body, and not the less a true one, that in the grave it saw no corruption. It rose again from the dead, for death had no dominion over it, and afterwards it was wondrously glorified and ascended to heaven, where Christ, wearing that glorious body, ever liveth to make intercession for us at the throne of God. The thought of this might well make us pause, when tempted to think or speak lightly of any human body, even though we were but distant and uninterested spectators of the honour and glory of which it has been in one pre-eminent case held worthy.

5. Christ is "the first fruits of them that sleep," and when we learn that our bodies shall like his rise again, that the dead shall be raised incorruptible, and we shall be changed, what can we say but with St. Paul, "Death is swallowed up in victory." Design will triumph in the end. Disease will prove a passing cloud. Suffering will fade into a forgotten dream, and sorrow and sighing flee away.

The Resurrection from the Dead is to the

eye of science one of the profoundest of mysteries, and to the eye of faith one of the saddest. It has a twofold aspect as revealed to us by Christ. "All that are in the graves shall hear his voice, and shall come forth, they that have done good unto the resurrection of life, and they that have done evil unto the resurrection of damnation." I quote this solemn passage, without offering any comment upon it. Annihilation is less terrible in anticipation, than such an awakening as that last referred to. But we need not fill our hearts with fears. He who uttered those words of warning, left none of us out, when he said, "I am the Resurrection and the Life: he that believeth in me though he were dead, yet shall he live: and whosoever liveth and believeth in me shall never die."

In the realization of what is here promised, and only in it shall we reach the solution of our doubts about final causes. The possessors of bodies changed, glorified, and rendered immortal, will find in the spectacle of these wondrous painless structures the explanation of all that was obscure or distressing in the mortal bodies which they once wore. The image of the earthly will be fully understood, only when

it has changed into the image of the heavenly, and the chapter on morphology which we shall read for the first time in the immortal land, will be found to supply the key to all that was inexplicable in the morphology and teleology of the mortal state.

Christ calls us all to be partakers of this blessed change. For us he died. For us he rose and revived. For us he ever liveth to make intercession. If we will but believe this, accept this, and act on this; if we will disown all merit of our own, and come as sinners to the cross of Christ, asking the Father to forgive us for the Saviour's sake, and grant us his Holy Spirit, we shall be heard and made one with Christ in God, and when Christ, who is our life, shall appear, then shall we also appear with him in glory.

If it seem to you a long postponement of the complex question we have been discussing, to adjourn its solution till the Resurrection, let me remind you that there can be no solution sooner. All the progress which human science may make, will not enable our successors to dispose of the dark problems we have failed to solve; and after death, unless they are

made clear to us by Him who is light, and in whom is no darkness at all, they will remain for ever unsolved. We must be content, then, and should be thankful to wait. Rather must we take heed that we neglect not the great salvation on which all our hope of further knowledge depends. Those words of our Saviour anticipating the judgment-day, "Depart from me, ye cursed," have in them, though we read no further, a solemn warning to every student. To spend eternity elsewhere than in the presence of Christ will be to be cut off from all progress in knowledge, except it be the knowledge of evil. Beyond the heavenly school of Christ there will be only utter darkness. Far from us all be such a close to earthly study. May the Lord God Almighty for his dear Son's sake, grant us the gift of his Holy Spirit, and forgiveness of our sins, and may we who know the vileness of the body look for the Saviour, the Lord Jesus Christ, "who shall change our vile body that it may be fashioned like unto his glorious body, according to the working whereby he is able even to subdue all things to himself."

AN ADDRESS TO STUDENTS OF MEDICINE.

YOUR presence here denotes that you attach, at least in some degree, to the cultivation of religion that importance which it deserves—that you have made up your minds that whatever other attainments you may and ought to strive after, religious principle and religious practice are attainments absolutely essential for your wellbeing—and that you are convinced that if you have them not, all other attainments whatsoever are and must be utterly useless as regards the great end of your existence. You testify your desire to gain right views of what religion really is, and what it does, so that you may be enabled to put it in practice in your lives. You testify also your belief (and rightly as I think) that the holding communion with those of like mind with yourselves in this matter is a duty and a privilege calculated to

prove, under God's blessing, a powerful mean of grace which you desire gladly and anxiously to embrace.

Men are in the habit of uniting and becoming confederate for the accomplishment of earthly objects, sometimes in a good, not unfrequently in a bad cause, and vast is the power, and mighty the results of such leagues. The compact faggot bears unscathed the strain that would snap through in an instant the single twig. Union is strength, and may we not look for results far greater, far more sure, far more abiding than the mere worldling can expect, from union among those who have for their banner the Cross, Christ for their leader, the Bible for their watch-word, peace on earth, good will towards men, for their motto, Heaven for their guerdon, and God over all blessed for ever.

I trust that we are met together here in sincerity and single mindedness, having no object in view but the good of our own immortal souls, and that of our brethren of mankind. I trust that we are met together here in no spirit of self-righteousness, but of deep humility, as becomes those who, if they feel rightly, must feel how utterly unworthy they are of this privi-

lege, as of all the other mercies, even the least, which God bestows upon his frail and erring creatures. I trust that we are met in earnestness as becomes those awake to a sense of the dangers which surround them, and from which, if they would be saved, they must fly as for their lives, like Lot of old from the City of the Plain—as becomes those who are conscious of labouring under a dangerous malady which one remedy can alone cure, and which uncured, must destroy them for ever—as those who are perishing from hunger and thirst, unless they can obtain a supply of the bread of life and the waters of salvation, which alone can restore them—as justly condemned criminals whose fate is sealed for ever, unless they can obtain pardon. Such and such like considerations ought to make us earnest, and to banish from our meeting formality, carelessness, hypocrisy, worldliness, and everything else that can unfit us for the society of our blessed Redeemer, for it is a solemn thought that he is now present according to his promise in the midst of us, to bless us and to do us good, if we be indeed assembled in his name, and can justly lay claim to the title of his sincere, his humble, his earnest followers.

No one can feel more sensibly than I do myself how unworthy I am to address such an audience on such a theme. I have undertaken the task (I can sincerely say) in no spirit of presumption. Had I consulted my own inclination, indeed, I should have declined the office; and I have undertaken it with great diffidence, and only because I deem it of importance that those who have advanced a considerable way in the journey of life, and from the accident of their position may be considered as having some influence, should, as far as in them lies, further such a movement as the present, and ought not to shrink from undertaking such a duty, in the hope that by God's blessing they may be enabled, from the wallet of past experience, to bring forth something, even though but poor shreds and patches, which may peradventure prove serviceable to succeeding pilgrims.

When I look back to my own student days, I cannot but feel deeply humbled by the reflection that religion was so little in earnest regarded by myself and many of those with whom as a student I associated; verily we were careless professors, and there were few to care for our souls. We got little encouragement to

attend to those things that belong to our immortal peace. These precious days with all their golden opportunities passed away for ever—the time, in great measure, unredeemed—the freshness of youth passed away with all its impressibility. We were not without earnestness indeed, but the objects on which it was lavished were worthless in comparison with those to which it might and ought to have been devoted. Could we but, as by the stroke of the enchanter's wand, be restored to the vantage ground of youth, in what a different light would we view the prospect before us, what a different estimate would we form of that worldly prosperity after which we then sighed so ardently, and those worldly distinctions which then seemed the chief end of our being. We should regard all these things, what in very deed they are, but as dust in the balance compared with those weightier matters which, unlike them, are real and substantial, satisfying, strengthening, comforting, enduring, rendering life a blessing under every possible diversity of external circumstances, and death a great gain, come how, and when, and where it may.

When I call to mind the band who started

with me in the race of life, buoyant with hope, the question arises—Where are they? What has been their lot? Some have attained the goal of high earthly distinctions, wealth, honour, obedience, troops of friends—others have failed, and fallen into "the sere and yellow leaf" of poverty, obscurity, and neglect—not a few have sunk prematurely into forgotten graves. The realities of life have been encountered with various measures of success; but what of their souls? We may not seek to penetrate those depths which Omniscience alone can scan. This only we may without any doubt affirm, that whatever their outward circumstances may have been, those only have any title to the epithet of wise and successful, who have sought their chief happiness in the fulfilment of those duties to God and man which constitute the end and aim of religion, truly so called. My friends, you are still young; you now occupy that vantage ground which those advanced in the race can never hope to regain. You have before you two distinct paths, and only two: at the entrance of the one stands the sign-post danger—at the entrance of the other the sign-post safety. The one is broad, and looks easy, and pleasant, and attractive; the

other is narrow, and looks rugged, barren, and difficult. One or other of these must be trod. Think not that you may for a time travel along the broad way with the intention of ultimately taking to the narrow way. There is no short cut from the one to the other; you will have to retrace your steps, and thus waste time and strength before you can regain the path of safety; and if happily you should succeed, remember this, the sins and negligences of your youth will clog you in your subsequent career. The unholy thoughts, words, and actions of that period lurk in the caverns of memory, and ever and anon, even after many years, will unbidden steal forth to cloud a sky which else had been serene, to taint an atmosphere which else had been pure, to distress and humble the soul even of the penitent convert, and to constitute lets and hindrances in his journey to the heavenly city. Procrastination is a dangerous thing under any circumstances. In religion it must always be most dangerous, and may prove fatal. Many a young man, to the great peril, nay loss of his soul, has deluded himself with the notion, that for the present he may eschew more serious thoughts, and devote him-

self to worldly pursuits, whether in the way of study or amusement, and that at some indefinite subsequent period he will have both more leisure and more inclination to attend to a subject which his reason and his conscience tell him is of paramount importance, but which, as seeming to mar present enjoyment, he defers, like Felix, to a more convenient season.

Is any one tempted to take this view, let him ponder well these two things:—1. He may never live till that season arrives; and 2. Even if his life be prolonged, he can have no guarantee that he will have either more leisure or inclination for the important duties which he is now disposed to neglect. Let him not then trust to a rope of sand; let him not be deluded by a *mirage;* to-day is his own, to-morrow to him may be but a dream.

The student of medicine is exposed to the common uncertainty of life, but he is also exposed to special dangers which render his life more than usually hazardous. You think you have little leisure now. The student is not rarely apt to think that no one has less leisure than himself, and he looks forward eagerly to the time when, his examinations over and his profes-

sional testimonials attained, he expects to be a free man, and to have more time at his disposal. Believe one who has had some experience in this matter, and who now tells you what thousands to their cost could testify, that as life advances, both leisure and inclination for serious subjects diminish instead of increasing, and at every step the mind becomes more callous and less and less susceptible of religious impressions. In the morning sow thy seed. Remember now thy Creator in the days of thy youth, while the evil days come not, nor the years draw nigh, when thou shalt say, I have no pleasure in them. Behold now is the accepted time, behold now is the day of salvation. As years increase so do cares, anxieties, and sorrows; so do the occupations of the world. And the man of business too often either finds, or thinks he can find, little time apart from his business, his farm, or his merchandize; or his professional labours engross his time and attention; and even when he is disposed to find time for serious reflection, he is liable to many unavoidable interruptions. Glad would he be now to have the comparative leisure and freedom from care

of his student days. Perhaps he may console himself with the notion that by and by he may be enabled to withdraw himself from the turmoil of busy life, and devote a period of tranquillity between the active part of life and the grave, to that preparation which ought to have been begun in youth and steadily continued in his mid career. But to how few does that period arrive. His projects are liable to be blighted by the infirmities of advancing years, or altogether cut short by the stroke of death. Will God be mocked with the dregs of our career? He says, Give me thy heart, thy whole heart, and thy whole life, which ought to be devoted to my glory.

It is the part of wisdom, then, for a young man to seek the Lord while he may be found, to call upon him while he is nigh. The young man especially needs the safeguard of religion, for he is exposed to peculiar and formidable temptations—the lust of the flesh, the lust of the eye, and the pride of life; and in his struggles against these dangerous enemies, he needs to put on the whole armour of God. Clad in that, and only when so protected, he will be strong in the Lord and in the power of

his might, and thus be able to stand against the wiles of the devil.

Such is the tone of the times in which we live, that it requires comparatively little moral courage to make profession of Christ. Now-a-days, in fact, it requires more courage to scoff or to sneer at religion and to profess infidelity, for thereby a man will very probably peril his success in life, and exclusion from decent society. How different was the case in times not long gone by, when that great man William Wilberforce braved the sneers and ridicule to which from his high position in society he was more than ordinarily exposed, took his stand for Christ's kingdom, and separated himself from the world. Great may that man justly be called, and good also, through whose instrumentality in a great measure was achieved the abolition of the slave trade, and eventually as a consequence the emancipation of the negro slave. That achievement will immortalize his name. But though perhaps less dazzling in the eyes of the world, whose estimate of greatness is not unfrequently erroneous, not less pregnant with important results were the example and precepts of that good man upon society, not

only in his own day and generation, but also in succeeding generations. A little leaven leavens the whole lump. The nitrogenous ferment, small in quantity, stirs up powerful chemical action, resulting in great changes, and so the influence upon society of Gospel power brought to bear on it by an earnest consistent Christian such as was Mr. Wilberforce, is not easily estimated. It is calculated to produce a blessed revolution, not perhaps at first very apparent on the surface, but noiselessly yet steadily spreading through the various ramifications of society, and producing the fruits of holiness to the honour and praise of God.

The student who determines to choose the better part, and to enlist under Christ's banner, must expect to meet with sneers and ridicule, mayhap, even hatred, from those who have chosen the world for their portion, and who entertain bitter feelings against that Christianity whose precepts condemn their course, and those Christians (I mean true consistent Christians) whose life and conversation are so different from, and contrast so favourably with, their own. It is one of the trials of the young Christian to face this opposition. There is a natural

tendency to shrink—but shrink he must not—let him not indeed wear his religion obtrusively on his sleeve, or offend good taste by introducing the subject at unseasonable times; such a course may and not unfrequently has done harm—but he is bound fearlessly to defend Christ's cause and honour; he ought to be a living epistle of Christ, known and read of all men; he ought to live down opposition by following in the footsteps of his blessed Master, and shewing in his life and conduct, that Christ's religion is a reality and not a mere name. Thus the religious student, whilst he is following a course which is calculated to promote his own happiness in time and eternity, may haply become the means of good to those around him, whether his fellow students, or those whose temporal diseases he may be called on to minister.

I have said that such is the tone of the present times that it requires now-a-days comparatively little moral courage to profess Christ, but may not that very circumstance give rise to a lamentable result of a very opposite character—may not this very facility of profession, and the advantages in a worldly point of view which it may seem to offer, lead to the fearful, nay, even

appalling danger, of the hypocritical assumption of the outward cloak of religion—while within its influence is unfelt. Dangerous is the condition of the sceptic who repudiates religion altogether; hardly less so that of the mere formalist who deludes himself with the notion that he is really religious, because he conforms to outward observances; but beyond measure, and in an awful degree, dangerous, is the condition of the hypocrite. The former may become, as in the case of the noted Lord Rochester, the subject of conviction and conversion ere it be too late; the latter risks the fate of the traitor Judas, to whom was left no place for repentance. It is in every point of view, then, most important that we should be able to distinguish genuine religion from those many forms of it which are falsely so called—which are delusive, unreal, and unsafe—and especially important is it for each of us in his own case to be alive to this distinction; and for this purpose to be constantly applying to our own state, the only safe test, viz., that of the Scriptures of truth. Religion, taking the word in its literal signification, is a comprehensive term; it means duty or "obligation;" duty to God and duty to man

in all their branches are included, and a sense of our obligation to fulfil these duties ought to be ever present with us, restraining us from evil, leading us to good, keeping us near that God, whom to love, and whom to obey, ought to constitute our chief happiness—attaching us by the bands of love to our fellow-creatures, and leading us to find a satisfying reward in the act of doing good, as we have opportunity, to their souls and bodies. Man, as originally created, might have continued to experience the blessedness of walking in a course so upright and so full of enjoyment; but, alas! he fell—and we his descendants are doomed to reap the bitter fruit in our utter inability to fulfil the requirements of God's holy and just law. The attempt to do so of ourselves must end in total and ruinous failure. Neither angels nor men can supply that which is lacking. We can be safe only by building upon the only sure foundation-stone, which is Jesus Christ—the atoning one—the ransom paid for our sins—the justifier through faith in him of the guilty and condemned. No other foundation do we need to seek—no other foundation will do. He is our rock—thereon if we build we are secure from those dangers

by flood and tempest which must crush and overwhelm him who has built on the sand—Christ must be the starting point—the be-all—and the end-all—if we try to make the performance of our duty (which must at the best inevitably be imperfect) bring us to Christ. We shall fail. Christ, by faith in his blood, must bring us to duty, and therein support us. On such a foundation—God helping us—we may build the superstructure of a religion *rational—zealous, yet according to knowledge—continuous—earnest—progressive—practical—fruit-bearing—peace-bringing—death-conquering.*

Your religion, my friends, should be *rational*, and, according to knowledge, you should, nay, you are bound, to investigate for yourselves its truths, and the evidences by which they are sustained. It should not be a mere matter-of-course religion which you inherit, like worldly property, from those who have preceded you. You should be able to give a reason for the hope that is in you, and with a view to this, you should spare neither labour nor time in order to master a subject far more important than any other which can occupy those faculties

which God has given you. You are, I trust, earnest and diligent in the prosecution of those studies which are to fit you for the active duties of your professional life. Is, it rational—is it safe to devote a smaller degree of earnestness and diligence to pursuits whose influence ceases not with life, but is enduring as eternity. Search the Scriptures, then, diligently, according to the injunction of Christ, and, at the same time, neglect not that aid which is to be obtained from the perusal of the works of those pious, learned, and distinguished men such as Paley, Chalmers, Whately, Olinthus, Gregory, etc., who have done so much to illustrate and defend the cause of religion.

But besides being rational and zealous, your religion should be *manly*, not disfigured by that sickly puling sentimentality and conventional honied phraseology which are sometimes looked on, but most erroneously, as necessary concomitants of religion. They are frequently, no doubt, worn by well-meaning, pious, and sincere persons; they are sometimes assumed by those who have no claim to be so considered; but, at all events, their effect is to make the judicious grieve, to offend good taste, and to repel from, rather than

allure to, the cause of Christ. There is a vast difference between lip religion, which is so well exemplified in the character of Talkative in the Pilgrim's Progress, and real heart religion. The one is noisy, and makes itself heard whilst it discusses unprofitably various obscure doctrines and contested points, or throws itself unreservedly into the wordy fight of polemics; the other is silent, humble, more ready to learn than to teach, seeking after the truth in simplicity. The one regards exclusively the means, forgetting the end; the other regards the means as leading to the end. The one brings forth either no fruit, or it is like the apple, fair to look at, but within full of rottenness. The other brings forth abundantly substantial and wholesome fruit, meet for repentance.

Let your religion be *continuous.* There are some men who seem to take religion in paroxysms; like those of an ague, they have their hot fits of zeal and earnestness, and their cold fits of indifference and neglect. This is not a healthy state; it indicates the absence of true and abiding faith. The steam which enters the cylinder of the engine wherein the piston moves would act in puffs, and irregularly, and thereby produce irregular movements of the machinery,

unless there were what is technically called the governor and fly-wheel to regulate its entrance, and thus secure regularity and continuity of action. And so in the case of the intermittent professor of religion. It needs the balance wheel of uninterrupted use of the means of grace to obviate these intermissions, and prevent the dangers to which they give rise. There are, too, what may be called fair-weather professors of religion; as long as they sail in a smooth sea, impelled steadily onward by favouring breezes, they bask in the rays of a faith which they imagine to be as sure as it is serene; but when the wind has arisen, and the billows are mounting, and the lightnings are flashing, and the thunders are rolling; when the sunshine of prosperity has yielded to the gloom of adversity, then their faith wavers, and they either lose confidence altogether, or place it mainly in earthly means. That is an unreal faith. Far different should be that of the true Christian. Like the lamp of the vestals of old it must be kept ever burning; if the flame flickers, it should be shielded, nor should it be allowed to wane for lack of oil. True faith ceases not to shine, whether in prosperity or adversity—ever

brightest in the darkest hour. Is the believer brought low by sickness? it says to him be healed, be of good cheer, thy sins are forgiven thee. Is poverty his lot? it consoles him by telling him that Christ became poor that by his poverty his faithful followers might be made rich. Do friends forsake him? it points to a friend of friends that sticketh closer than a brother. Does the world look cold on him? it points to a brighter world where thousands of holy angels sing joyful hymns in honour of even one repentant sinner. Does the last enemy draw near? he can face him unappalled; for faith shews him Christ by his side, ready to bear him dry shod through the waters of Jordan to the promised land.

But true religion should be not only *continuous* but *progressive.* Had the Israelites, after their escape from the land of Egypt, halted in their flight, they must have been overtaken and re-enslaved by the hosts of Pharaoh. God's injunction to Moses was, say to the children of Israel that they go forward; and so with the true Christian. He must onward. To stand still is to retrograde. He cannot, he ought not to be satisfied with what

he has already attained. The tendency of true faith is to grow with its growth "*crescit eundo.*" It is the part of wisdom, then, for every man to examine himself frequently, that he may know whether or not he is growing in grace; for if such be not the case, he may suspect that his faith is deficient, and ought to be strengthened and repaired.

But, in conclusion, religion, worthy the name, is and must be *practical.* It is the true philosopher's stone which can transmute the baser into the nobler metals—which can transmute pride into humility, passion into gentleness, lust into chastity, envy, hatred, and malice into good-will, love, and charity, selfishness into self-denial: and if a man's religion produce not these effects it is nought; for to speak of a proud Christian, or of one that is passionate and ill-tempered, lustful, envious, malicious, or uncharitable, or selfish, is to speak of a contradiction in terms. It is the new creature that testifies of Christ received into the soul. The tree may bear leaves and showy blossoms, but if it bring not forth fruit it but cumbers the ground.

By their fruits ye shall know them. Christ

declared that he who did the will of his Father was his true disciple, and again "without holiness no man shall see the Lord." It were easy to pursue the subject at greater length, but your time, on which I have already, I fear, trespassed at too great length, will not permit. Suffice it that I, in a word, sum up what my idea is of true religion, that it must be based on Christ, and that the believer must be united to him as the branch is to the vine; that it must be constantly fed with the means of grace; prayer, earnest, sincere, and constant; the sighing of a contrite heart, and the desire of such as be sorrowful; constant watching against the intrusion of sinful thoughts, words, and actions; the prayerful, devout, and regular perusal of God's word; the hallowing of the Sabbath, on which day secular study should be rigidly and systematically abstained from; regular attendance on the sanctuary, and at the Lord's table when opportunity offers; and, in a word, making use thankfully of all those abundant means of grace which are within the reach of all who desire them in this highly favoured land. A religion thus based and thus maintained must and will make itself known in a consistent life and con-

versation, marked by love to God and his service, and love to man according to the golden rule of doing as we would be done by. I cannot more appositely close this very imperfect address than in the words of St. Peter—"And besides this, giving all diligence, add to your faith virtue, and to virtue knowledge, and to knowledge temperance, and to temperance patience, and to patience godliness, and to godliness brotherly kindness, and to brotherly kindness charity. For if these things be in you and abound, they make you, that you shall neither be barren nor unfruitful in the knowledge of our Lord Jesus Christ."

AN ADDRESS TO STUDENTS OF MEDICINE.

THERE is a tendency in some quarters, at the present day, to think and speak lightly of the healing art, as if it were lagging behind in this enlightened age, and were incapable of giving material aid under the many diseases and accidents to which we are all exposed. The age is essentially restless and impatient, thirsting for novelties and excitement of every kind, and credulous, it may be added, to a remarkable degree. We appeal to your common experience, if this is not true, so far as empirical remedies and plans of cure are concerned, even of scientific men—men who have been trained from their youth upwards, not merely in natural science and psychology, but also in the exact and peremptory reasonings of the pure mathematics. Doubtless, there are many and honourable exceptions; but still, we have good ground for the averment, that high intellectual endow-

ments and prolonged mental discipline do not in themselves necessarily secure their possessors from the contagion of all popular delusions. To secure this immunity, there must be originally an ample supply of good common sense, or, better still, as I believe, an effusion of the grace of God, which alone can effectually strengthen, stablish, settle the restless human soul. That Divine agent by his enlightening and transforming power, enables those who have hitherto swallowed with greediness every theory, however absurd, which crossed their path, while perhaps they had little credence for the great verities of the Bible, to see the folly and emptiness of many ephemeral doctrines in which they once readily believed, and to receive with the simplicity and earnestness of children the mighty truths unfolded in the Gospel.

Now this temper of mind, so restless and credulous, which harbours with avidity the teeming brood of rapidly developed novelties which successively appear,—and whose very appearance is ever proving, be it observed, the vanity of those which went before, has no favour or patience for medical science as recognized and taught in our schools. It seeks, and

believes that it has found, for the time at least, a sure and infallible Panacea for all the ills to which flesh is heir, and regards, as a narrow-minded and selfish bigot, every member of our profession who holds fast by the old fashioned modes of treatment. But persons who are animated by this unsettled, flighty, and morbid temper of mind are not to be reasoned with, and we have little hope of convincing them by any arguments, of the folly and fallaciousness of their sweeping condemnation. The science of medicine has always been a plant of slow and stately growth; it has gathered strength through all the changing scenes of two thousand years; it has been watered, and pruned, and cared for by wise, and good, and earnest men of many generations; it is still an object of honest pride and zealous culture to numbers who know it best, and *they* feel no temptation, although *others* may, to barter its ancestral strength and long tried stability for any of the mushroom growths which spring up and perish in a day. Those persons, therefore, must be regarded as foolish who despise and would set aside the healing art as it now exists; for this reason, that in so doing, they overlook not merely the pregnant

fact, that crowds of able, and educated, and honest minds have contributed their best energies towards its advancement during so long a period of the world's history, but also this other fact, that medicine has always been eclectic in its nature, neglecting no useful hint, but gathering and adopting its means and appliances from all the elements and from every available field: Hence, also, there is an obvious fallacy in the idea which many entertain, or at least express, that the members of our profession are hindered by narrow-minded bigotry, or by the fear of endangering their craft, from hailing with open arms, every new and popular plan of treatment. The truth is, that we are ever ready to incorporate with our own views every element of truth, however small, which these systems may contain; we only demur to their vain pretensions to be ranked as Panaceas. And then, as to our craft being in danger, surely every one must see, that were self-interest our guiding star, our best policy in that case would be to adopt the quackery *in toto*, and so supersede the cavillers who now accuse us of bigotry and selfishness.

What is our object in these introductory

remarks? They are intended chiefly for those of my hearers who having just entered upon professional studies, can know but little, by personal experience, of the real power and capabilities of the healing art, and who are therefore in some danger of having their hope weakened and their ardour cooled by the false and narrow views of the persons we have been describing. But those of our number who have been long employed in active professional duty are in no need of exhortations to stand by our colours; for we have met with numberless satisfactory and gratifying proofs, in the experience of our brethren as well as in our own more limited sphere, that our calling is oftentimes, with God's blessing, a ministration of mercy, and that although many cases are met with, which, whether from their inherent nature or from shortcomings in knowledge and skill, can be neither cured nor relieved, still, the conscientious and painstaking practitioner, be he surgeon or physician, has ample grounds both for loving his noble profession and for putting forth his best and most hearty efforts to extend its scientific basis and enlarge its resources.

We shall take it for granted, then, that the

professional studies and pursuits in which our young friends are now occupied, are really furnishing and equipping them for the duties of an important, noble, and truly honourable calling; and with this conviction, it may be profitable for all of us, to consider somewhat in detail, the various motives and their individual power and value, by which we may be stimulated to active exertion either as students or practitioners. I class students and practitioners together; because the former are looking forward to practice as the business of life, and the latter can never give up being students, if they have any regard for the welfare of their patients, the honour of their profession, or their own peace of mind.

1. Seeing that the great majority of medical students are constrained, by outward circumstances, to look upon their future profession as the calling by which they are to live; the desire of pecuniary emolument or money-making may naturally be considered first in our proposed enumeration of motives. I believe, however, that in most cases, it holds a very subsidiary place among the thoughts and impelling motives of the young student, upon whose

intellectual vision have just opened so many fair and inviting fields of inquiry—the healthful pursuits of botany—the marvellous revelations of chemistry, and more interesting still, the structure and adaptations of our human body so fearfully and wonderfully made. During the years of studentship, so pleasing in the retrospect, when the responsibilities of practice do not as yet exist, and the carking cares of life are seldom felt, we pass on from one chamber of knowledge and excitement to another, and all of them illumined by the warm sunshine of youthful hope, so that sordid desires have very little opportunity for intruding upon the mind, already pre-occupied by more generous and elevating contemplations. As years roll on, however, and the student merges into the practitioner, he may be tempted, especially if favoured with more than ordinary worldly success, to allow the love of money to become his paramount and impelling motive. I need hardly say that this sordid passion, when cherished or not discouraged, is one that grows and strengthens with each advancing year, and is very prone to gain the mastery over its unfortunate and helpless victim. Farewell, then, to that character

for high-toned liberality and disinterested self-devotion by which so many medical men have been distinguished, and which is still frankly conceded to our profession as a body, even by many who have no high estimate of our skill and success as healers of the sick. Our young friends will bear with us, when, in this passing way, we warn them beforehand against this, when unduly fostered, the lowest and most sordid of all the motives to professional exertion. Remember that solemn warning—"They that will be rich fall into temptation and a snare, and into many foolish and hurtful lusts which drown men in destruction and perdition. For the love of money is the root of all evil: which while some coveted after, they have erred from the faith, and pierced themselves through with many sorrows." Remember also the divine encouragements which are given to an opposite character and course: "The liberal deviseth liberal things; and by liberal things shall he be established." "The liberal soul shall be made fat." "He that hath pity on the poor lendeth unto the Lord; and that which he hath given will he pay him again." "There is that scattereth and yet increaseth."

My young friends, your open-handed liberality may not actually return to you in the shape of outward tangible advantages, although this is often literally the case; but if your liberality has been directed and dispensed, under a sense of stewardship to God, you may look for a blessing of some kind from Him whose eye is upon you, and who is always better than His promises. "The Lord will strengthen him upon the bed of languishing; Thou wilt make all his bed in his sickness."

2. The next motive we would bring under review is that love of applause or thirst for distinction which, although felt more or less strongly by almost every individual of our race, is often most urgent and impetuous in those who are too generous and high-minded to be influenced greatly by the mere love of gain. Many young men who ultimately reach a high place on the pinnacles of professional honour, are doubtless animated to perseverance in the midst of difficulties and discouragements fully as much by this particular motive as by any other that could be mentioned. They have been told of the famous professional worthies of bygone days, and of the high estimation and respect in which

they were held by their cotemporaries; they are eye-witnesses of the successful operations performed by eminent men in their own day, and fully appreciate the high and honourable position accorded to them by a grateful public; and it is most natural therefore, that the best and ablest of our young men should own the power of an ambition so lawful in carrying them forward along the path of their professional studies. We would only suggest a caveat, lest the sentiment of emulation, implanted in the human breast for wise and salutary purposes, should gain an undue ascendancy and power, leading at last almost to the very extinction of other and higher motives less prone to terminate in evil. You need only to be reminded that an inordinate love of applause, besides being nearly incompatible with less selfish and therefore higher motives of action, has an invariable and natural tendency to generate many uncharitable, unholy, and peace-destroying tempers of mind. "Let us not be desirous of vainglory, provoking one another, envying one another."

But even supposing, which is hardly possible, that these concomitants of ambition, as an

impelling motive to action, were kept in abeyance; still a time will come assuredly to every human being in whom the passion dwells, when he will discover it to be worthless and unsatisfying. For no earthly honour can allay the cravings of the soul which has looked to *it* for happiness; no human applause can satisfy the ambitious man, who thirsts more intensely for the vainglory of this passing world, than for either the settled peace of his own conscience, or the approbation of God. Is it not true that the young practitioner who has, for the first time, performed an important operation in surgery, with credit to himself, and with the approving smile of friendly bystanders, experiences a greater amount of self-satisfaction and pleasure than his more experienced brother surgeon who has done the same for the hundredth time. And so with all other things. Familiarity, like frequent handling of the ripe and tempting fruit, withdraws a great part of their bloom and freshness from all the objects of professional interest; and it is very conceivable, therefore, that unless there be a permanent and ever-acting motive to exertion of a firmer nature than the mere love of applause, the successful aspirant

may come to lose much of the interest that he used to feel in the main object of his life-long pursuit, and even grow wearied and disgusted with the very act of pursuing it. He finds it to be most true, as months and years roll on, that all is vanity and vexation of spirit; for an hour is fast approaching when he too must leave this earthly scene, and when the place that knoweth him now, shall know him no more for ever. *Then* his professional reputation, so anxiously sought by himself, so well deserved and so greatly envied by many of his brethren, will begin to vanish amid the misty recollections of former days, and must soon, unless based on a foundation of very pre-eminent merit seldom met with, be almost unknown to a new generation of his countrymen. And even supposing that his name should descend from age to age, in company with a few others who confessedly advanced our science, and served their day with distinguished success, he now probably feels that posthumous fame is an imaginary good in which he personally can never participate. Reason therefore seems to indicate what experience has often proved, that those who are mainly stimulated to activity and zeal in their calling by this

inferior motive, the love of applause, are not unlikely to faint and grow weary, before their day is finished and their sun gone down below the horizon. "What profit hath a man of all his labour which he taketh under the sun?"

But still more melancholy in reality is the case of those who never experience such misgivings at all, or at least do not lay them to heart and act upon them; nearing the goal of life with the same apparent eagerness for its tinsel prizes and unsatisfying honours which they exhibited when first starting for the race in all the vigour and buoyancy of early manhood. With them, the motive we are considering has effectually served its purpose as a spring of action; but its very strength and power have made them in a manner independent of every nobler impulse, and they are in all the greater danger of neglecting the momentous scenes of that mighty future into which they must soon be ushered.

3. A third motive to exertion is the sense of professional responsibility. This of course is felt chiefly by those who are already immersed in the cares and anxious duties of practice; but even the mere student of medicine who is

observant and thoughtful becomes conscious, at an early period, that his future life, as a practitioner, is already casting an influence, like the shadows of coming events, over the aspect of his present occupations. Chemistry, anatomy, physiology are all invested in his eyes, and more so from week to week, with an interest and importance communicated to them beforehand, by emergencies that are still future. The barren details of science are now pregnant with practical value, and the tyro who at first had his mind occupied with so many novelties, and marvels, and little more, regards all the facts and doctrines which come before him, as pervaded with a certain character of, he knows not how great, importance. He is now under the power of a new and constraining motive to activity and diligence; and if he be a conscientious man, this motive will maintain its influence to the very close of his professional career. The only difference observable is this, that his views of what may be required of him as a surgeon or physician become definite, clear, and precise; the mists which, as in the natural world, made him confound great things with small, gradually clear away; he perceives the relative import-

ance of various fields of inquiry, has discovered some of his own deficiencies, and now endeavours to remove them with better prospects of success.

This motive to professional diligence which thus begins to be felt at an early period by every thoughtful student, and which ought to gain strength and precision as we advance in life, is one that may be safely encouraged and cherished. We cannot well over-estimate or exaggerate our responsibility as medical practitioners—men to whom our neighbours and fellow-citizens commit their dearest interests, and look with confidence for our best advice and help in their season of bodily distress and danger.

4. A fourth motive to activity and diligence, both as students and practitioners, is the desire, strengthened by hope, of being able to bestow substantial benefits upon many sufferers who apply to us for professional advice. This motive carries us a stage higher than the preceding; because the mere sense of responsibility, which is to a certain degree selfish, is now borne upwards, as it were, on the wings of benevolence and good-will—the desire to do good being prior to and independent of the real pleasure that is

experienced in the very act of doing it. How often must this benevolent motive find scope and opportunity for action in the fully employed surgeon, who, having taken great pains to learn and master his art, is prepared to treat with confidence numberless forms both of disease and accident, which, if neglected or mismanaged, would either agonize or kill their victims; what a stimulus to study and restudy every department of his calling; to consider earnestly from time to time, if any improvements may be introduced; to maintain and extend his acquaintance with anatomy, and in short, to use every available means and opportunity for equipping himself more thoroughly than before, for all the possible scenes and emergencies of professional experience. And the same may be said of the physician, for, although he sometimes encounters the misfortune of having his labours undervalued—a disadvantage which the surgeon escapes, for his handiwork is acknowledged by all men, even by the disciples of Hanneman, Mesmer, and Priessnitz—he, the physician, knows assuredly, that human life is often saved, and human suffering mitigated by well-timed medical appliances; and therefore his desire to do

good in the peculiar walk assigned to him by providence, is a continual stimulus to his zeal, and energy, and perseverance.

We may illustrate our meaning by supposable circumstances. When the great discovery or invention of auscultation first dawned upon our profession, all the men in middle or advanced life, who were slow to inquire into, and recognize its merits, would inevitably forego many valuable opportunities of benefiting their patients. How many cases of bronchitis might be mistaken for phthisis? how many of phthisis for bronchitis? How many inflammatory affections of the heart or pericardium would escape detection altogether? How many cases of irritable heart connected with anæmia would be treated with depressing remedies? How many occasions would be lost in the disease last named, not to mention others, of relieving not the patient merely by appropriate treatment, but the hearts of anxious relatives, by being able to assure them that a curable complaint was present when they had dreaded the very worst? Now all of us are in danger of thus materially contracting our sphere of usefulness, if we yield to the natural promptings of indolence, and neglect

the high motive of a desire to do good which we are seeking to enforce. And it becomes us, therefore, to be always on the watch for improvements in our art—never, without due consideration, looking coldly and contemptuously on new suggestions, for this, among other reasons, that we may, by so doing, very painfully contract our own means and opportunities of professional usefulness.

We have seen, then, if I mistake not, that there are various motives to professional exertion, and that all of them are lawful when reined in and kept within proper bounds. The two which we have been considering last, indeed—I mean the sense of responsibility, and the desire to do good—can hardly influence us too strongly under any circumstances; but we need to be always on our guard against the others, for they have an unceasing tendency to predominate and rule.

How are we to gain the mastery over these doubtful motives in favour of those which are right and safe?

5. Let us endeavour to bear always in mind, that this world is not our resting-place,—that we are merely passing through it as so many

strangers and pilgrims, while everything that we think, say, or do, bears an inevitable reference to another world beyond death and the grave. Could we only realise these solemn truths from day to day, and hour to hour, what a change would spread itself over the whole course and tenor of our lives? The things of earth and time, which are now so ready to occupy and engross our minds, would lose much of their seeming magnitude and importance, while the dark future, which, to the natural eye now looms so awfully behind the familiar scenes of our present being, would then be illumined by a bright and cheerful light. All things would appear under a new aspect; all things would be estimated by a new standard. Our professional studies, our patients, our daily occupations, would now be viewed, not in the dim and uncertain light of time and its passing interests, but under the full blaze of the grand coming eternity. But, need I remind you, my friends, that not one of us can rise to this view of things by any voluntary effort of his own, however strenuous. Sooner might the blind man, whose eyes are hopelessly quenched in darkness, succeed by ceaseless straining in gain-

ing ingress to them for the light of day, than might we, who are all spiritually blind from our mother's womb, work our way spontaneously into a reception of that light and knowledge of which we are speaking. *That* light must be given us from above. It is promised to those who seek it earnestly, and who, in pursuit of it, look to Him, the Christ of God, "who is the true light that lighteth every man that cometh into the world."

Unless, indeed, this be our prevailing attitude—unless we turn our believing eyes to the Divine Surety and Substitute who was wounded for *our* transgressions, and bruised for our iniquities, it is impossible for any one of us, however exemplary in our lives, to contemplate time and eternity, ourselves and our Creator, with an open and fearless eye. It is only when able to think of God as really reconciled toward us, through that Man whom He hath ordained, that we are in circumstances to see all things in their true and just relations. Then only will the mists and shadows which beset our path flee away, for "the Sun of Righteousness hath arisen with healing in his wings."

This we believe to be the only Religio Me-

dici that will avail anything, either in circumstances of earthly trial and vicissitude, or in that last solemn hour when we have to enter, unattended and alone, into the dark valley of the shadow of death. Men may bewilder both themselves and others in the time of health and strength, and outward prosperity, with vague and cloudy speculations about God and His Universe—denying His personality, and ascribing to the works of His hand the attributes which belong only to Himself—identifying the Creator with his creation, and mixing up a certain high-flown admiration of nature with a mawkish sentimental piety; but a religion like this, if it deserves the name, has no provision in it for satisfying the conscience. When that ruling power utters his voice, he speaks as one having authority, and he must be heard. What can a pantheistic creed, with its cloudy sentimentalism, do for us then? Has it any soporific at hand for lulling the awakened sinner? Yes, it tells him that sin has no real existence; but does he believe it? No, for the stern monitor within is now thoroughly aroused, and stands up with giant strength for the authority of God's broken law. And until that law is

seen to be fully satisfied, and eternal justice vindicated, *in the person of the lawmaker Himself*, no convinced and convicted sinner can ever be at rest again. But no sooner does he believe and trust Him who finished the transgression, and made an end of sins, and made reconciliation for iniquity, and brought in everlasting righteousness—no sooner can he do this, than his conscience is at peace, and he enters into rest. "Blessed is he whose transgression is forgiven, whose sin is covered; blessed is the man unto whom the Lord imputeth not iniquity, and in whose spirit there is no guile." Transgression forgiven! by whom? By God himself, the Judge of all. Sin covered! concealed from view—how, and with what? With the spotless robe of the Redeemer's righteousness.

Now, the medical man who thus feels himself to be justified by faith, and to be at peace with God through his Lord Jesus Christ, comes under the influence of a new and powerful motive to professional exertion. He no longer regards his patients as mere citizens of earth and time—dying creatures, whose bodily frame-work is committed to his charge; but he now views them as heirs of immortality, and is sometimes

even conscious of a yearning desire to do what he can for their spiritual welfare. Every surgeon or physician must have felt more or less vividly on certain occasions, when his efforts for the restoration of a sufferer to health and comfort have been peculiarly blessed, that after all, the cure is only for a time, because soon, at the very best, another ailment, or even death itself, will supersede and overturn all the good that has just been so happily accomplished. There is, therefore, beyond all doubt, a certain character of imperfection and instability about the best and most successful performances of our art. They are essentially temporary and evanescent, and shall assuredly have no place, no existence in that better world, "where the inhabitant shall not say, I am sick." But the Christian physician may still have it in his power to do something permanent, even for those patients whom he has failed to cure of bodily disease, by directing them affectionately to the God-man whose blood cleanseth from all sin; and he thus performs an abiding work, which *shall* follow him across the dark boundary of death.

I need not suggest that the more skilful and

eminent you become as professional men, the more numerous and favourable will, in all human probability, be your opportunities of thus speaking a word in season to your patients, and so guiding them towards the path of peace. What an encouragement, therefore, have we here; what a constraining motive to diligence and zeal, both in the study and practice of our calling. You all know that the medical man who has been the instrument of curing or relieving his patients, is often amply repaid for his services by the gratitude and esteem which they call forth; and is it not conceivable, therefore, that he, of all others, must have a vantage-ground to stand upon, when he would drop a word of warning or of hope into the ear of one who is already disposed to hang upon his lips?

In reviewing the various motives to professional exertion, we have commenced with those which are lowest in the scale, and have, step by step, found our way to the highest of all. At the beginning of our ascent, we encountered more than one distracting and devious path; but gradually the way became plainer, and now we have gained the open summit, and are inhaling the fresh mountain-air, with an open and bound-

less panorama round about us, and overhead the silent heavens. We are now in a manner free and unrestrained; for the motive last under review may be yielded to without hesitation or anxiety. We need be under no fear of its undue preponderance; we cannot be too intent upon promoting the spiritual welfare of our patients; and the hope of doing *that* ought to act continually as a strong elastic spring in pressing us onward along the path of professional duty.

It is hardly necessary to add, by way of caution, that our primary and most urgent duty as medical men, is to care for the *bodily* welfare of those committed to our charge, and that our zeal for their spiritual good must be always tempered by prudence. Few of us, alas; will ever stand in need of any such warning! our tendencies are all the other way.

We have now arrived at a point of view from which we may discern and appreciate the fundamental principles of that society, under whose auspices these monthly meetings are convened. The Medical Missionary Society was founded, under a strong conviction, that the practice of the healing art may become a power-

ful auxiliary to the preaching of the Gospel, and that Christian medical men, at home no less than abroad, by gaining the confidence and good-will of their patients, may open and smooth a pathway to their hearts for the saving truths of religion. And our association has always maintained another principle, which we have already tried to illustrate, namely—that the more vital the religion, and the greater the skill which meet in the same medical man, the more fully will he be prepared, so far as man can judge, for doing the work of an able and successful missionary. We believe that these views are thoroughly sound, and that they are applicable, not merely to avowed missionaries properly so called, but to every member of our profession who has himself tasted that the Lord is gracious, and desires, in consequence, to be instrumental in saving others. Surely, then, a great and heavy responsibility must press upon every one of us, students, teachers, practitioners, who have embraced this noble calling, capable of doing good on so large a scale to the whole human family. Let us give all diligence, in the first place, to make our own calling and election sure, casting ourselves unreservedly

upon Him who *once* stood in the room of sinners, but is *now* exalted to the right hand of power—and then but not till then, we shall burn with an earnest desire to beckon others into the same haven of security and peace that we ourselves have found; and then, as one mode, at least, of increasing our lawful influence with them, we shall labour in and cultivate our calling to the very last, with diligence and hearty good will, remembering the weighty words of the apostle, "not slothful in business, fervent in spirit, serving the Lord."

Here, indeed, is one great problem of human life—how to combine in just and right proportions, activity in business, with fervency of spirit in serving the Lord. The pressing temptation with some men, and these the great majority, is to forget God amid the cares and the bustle of earthly pursuits; the temptation with others, but these comparatively few in number, is to neglect or undervalue the claims of their worldly calling, in the vain hope of thereby deepening the fervour and spirituality of their minds. But such persons, well-meaning although they be, labour under a delusion; for instead of securing their own progress in religion,

they needlessly encounter temptations which others escape, and are very prone to lapse insensibly either into morbid anatomizers of their own minds, or still worse, into mere busy-bodies and tattlers. They thus come down from the high position which they might have occupied as professional men, and not only lose their former opportunities of relieving the bodily ailments of the sick, but can no longer speak a word in season, with the same acceptance and power, to those who might be benefited by such ministrations.

It should be the aim and ambition of all right-thinking men to maintain, as far as possible, the middle course between the two extremes to which we have referred, combining an active performance of all the duties of their calling, with a close and abiding fellowship with Him who presides over all the events and circumstances of their lives. The primary and most effectual means for securing this high attainment are watchfulness and prayer; but much help will be also derived, if we mistake not, by giving free scope to those higher motives to professional exertion which we have just been reviewing.

The following quotation has been communicated by an esteemed friend.

"Let me also exhort you, who are learned and skilful physicians, to pray. Your vocation is one of great importance; as the soul is entrusted to preachers and divines, and property and its guardianship to lawyers, even so to your care is committed the body of Christians, which sacred Scripture calls the temple of the Holy Ghost, (1 Cor. iii. 16.) It follows that, you will one day have a heavy account to give in respecting the way in which you have treated that body, sanctified by the Spirit of God, and so highly esteemed in his sight. Of a truth, if all believers are Christ's members and brethren, (as according to the testimony of the Holy Spirit they certainly are) we may here also justly apply, what the Saviour will say at the last day, 'I was sick and ye visited me,' that is, tended and waited upon me, refreshed, and prescribed, and administered medicines to me, 'Verily I say unto you, Inasmuch as ye have done it unto one of the least of these my brethren, ye have done it unto me,' (Matt. xxv. 36-40.) The fact is, that, in a matter of such vast consequence, your art and science, however great,

will not themselves suffice; neither will Hippocrates and Galen, even though you learn them by heart, keep you from committing dangerous errors and mistakes in your practice, and far less secure for it a blessing. In this, as in every other thing, all depends upon the blessing of God. God must enlighten your understanding, that you may detect the cause of the malady; God must direct your heart, and hand, and pen, that you may prescribe the proper remedies; God must put virtue into the medicine that it may take effect, and do what you and the patient desire. Reason, therefore, dictates that you should examine yourselves, whether you have ascribed the cures you have effected to the goodness of God, and from that source alone prayed and expected success and blessing. You will not venture to deny that many of you might be convicted by their conscience, and in other ways, of serious mistakes. Into these the most High permits them to fall, because they pass him by, and trust in themselves to accomplish their objects without his grace and blessing. On the contrary, how great things might be done, if the plainest and simplest medicines were to be mingled with the

aspirations and tears of patients and friends, and ministers of religion, and physicians, and other true Christians! But alas, on every side, piety, faith, and charity are almost extinct, and every one fancies that without the aid of heaven, he can counsel and help both himself and others." (*Seelen-Schatz*, *Treasure of the Soul*, by Scriver, minister at Magdeburg, 1667.)

In conclusion, we may suggest another reason for listening attentively to the apostolic injunction. Let those who are fervent in spirit, or desire to be so, prove to the unbelieving world that religion has no inherent tendency to disqualify her votaries for activity in business, for usefulness to their fellow-men, or for the highest attainments in scientific knowledge. It is well that proofs of this position should be always accumulating from age to age, although such proofs are hardly required by any well-read students of the history of medicine—a history which has already enrolled among its worthies such an assemblage of illustrious names as Harvey and Sydenham, Boerhaave and Haller, Fothergill and Pringle, Hey and Jenner, Edward Turner, John Abercrombie, James Hope, and John Reid.

HISTORICAL SKETCH

OF THE

EMPLOYMENT OF THE ART OF HEALING

IN CONNECTION WITH

THE SPREAD OF THE GOSPEL.

IN presenting you with a sketch of the history of the employment of medicine and surgery in connection with the evangelization of the world, I take it for granted that you know very well how largely the Divine Author of our religion made use of his omnipotent power to heal the sick, to open the eyes of the blind, to give hearing to the deaf, and to make the lame to walk; also, how he charged his disciples to accompany their ministry by the like acts of beneficence, and how faithfully they imitated Him in doing this kind of good, as they had opportunity. I need not, therefore, dwell upon this; yet you must allow me to impress it upon you that those who regard it as still incumbent upon the followers of Christ to see that the sick are healed or treated with love and pity,

wherever the Gospel is preached, *look to the words and example of Christ and His disciples as forming their great warrant* and authority for every effort they make to promote the employment of medical and surgical science and skill in connection with missionary undertakings. It is not merely because we highly value the relief from bodily suffering, and the assuaging of the "thousand ills that flesh is heir to," which result from the successful exercise of the healing art, and would fain have all our brethren of mankind to participate in the heaven-sent boon; it is not that we believe that the preaching of the Gospel applied by the Holy Spirit is not of itself (without any such adjuvant as medicine) adequate to change men's hearts, and to lead the deluded heathens, over whose blood-shedding errors in religion we mourn, to cast away their idols; it is not that we grieve to see Christian missionaries and their families so often struck down by disease, without any skilled head or hand near to give them efficient aid; it is not for one, nor for all of such reasons, that we desire to commend this good work to *your* attention, *your* consideration, and *your* prayers, or that we labour to help those who are actually engaged

in it, but *only* because we believe that He who commanded his disciples " to preach the Gospel to every creature," has left us *an example* of " shewing mercy to the afflicted," which we are bound to follow, especially in the way of healing the sick, in connection with the declaration of " the truth as it is in Jesus." *

Passing over the history of the exercise of the gifts of healing by the first disciples of Christ, I would remind you of the use made of them by the Apostle Paul, of which the first instance recorded is that of the "man at Lystra," who was cured of a congenital lameness. Paul " said with a loud voice, stand upright on thy feet; and the cripple leaped and walked." The effect produced by this miracle of healing on the minds of the heathen spectators appears to have been very great. They cried out " The gods are come down to us in the likeness of men;

* It is generally known, and need not here be dwelt upon, that, amongst several of the nations of antiquity, even long before the coming of Christ, the priests practised medicine. And in Judea especially, the functions of the Levitical priesthood in this respect were long performed by the members of a particular sect — the Essenes — who were pre-eminently medico-theosophists. They flourished both before and after the commencement of the Christian era.

and they forthwith prepared to honour Paul and his companion with sacrifices, as if they had really been divinities. They were prevented from carrying out their purpose only by Paul's strong remonstrance, in which he assured them that their benefactors whom they sought to worship as Gods, were only men like themselves.

In this narrative we see at once both the sort of effect produced on the hearts of men by the sight of the successful exercise of the healing art, and the risk incurred by the healer of being exposed to the baneful influence of popular applause. We ought to take the warning here set before us, lest at any time we be exposed to this kind of risk, and be tempted to think, with sentiments of selfish adulation, that we are great and good, because we have done something that induces men to praise (perhaps almost to worship) us, as has happened to medical missionaries in modern times. How often, alas! are we tempted "to think of ourselves more highly than we ought to think;" forgetting that we are only feeble instruments in the hands of God, to whom we should, like Paul, be ever ready to give all the glory of our success. With regard to the effect produced

by Paul's miraculous curing of the cripple on the minds of the spectators, being comparable to the impression made by the sight of the successful treatment of patients by the physician or surgeon in modern times, it may be remarked by some, that such effect must surely have been much greater, when the work accomplished was evidently supernatural than it can possibly be when it is seen to be brought about in the use of rational means; and it may be granted that this was probably the case, so far as the excitement of wonder, awe, and veneration was concerned; but it is obvious enough that powerfully constraining sentiments of gratitude, respect, and love are naturally elicited in most human hearts by the manifestation of disinterested kindness, guided by high and cultivated intellect, even when the party shewing these is known to be a mere man. And in this point of view, there can be little question as to the placing of the miraculous healing of the apostles in the same category with the cures effected by the modern physician or surgeon. One object, undoubtedly, which it was the Divine intention to accomplish by the bestowal on the apostles of miraculous gifts of healing, namely, "the accrediting of

their mission and message as from God," could not have been attained without these; but another object, which they were intended to serve, namely, "to give a full expression of the benignant spirit of that religion which they attested," may be, so far as we can see, as well accomplished by the loving services of the physician as it was by the apostles; nay, may we not venture to say, better? for the spectators are presumed to know that *a mere man* working with just such mental powers as they themselves possess, must expend more labour, and undergo more suffering, in his endeavour to do good, than it would have been necessary for him to have endured, had he been an apostle or an angel. Thus may *any* Christian, under the constraining power of the love of Christ, do very much to illustrate and prove the power of that spirit of compassion for the sufferings of frail humanity, which is so distinguishing a feature of our holy religion; and so do much to attract fellow-sinners to come to the light of truth, and to partake in the blessings of the peace of the Gospel.*

* Neander well says in his general history, (vol. i. p. 104), that "As each particular miracle wrought by Christ was but

As he went on his errand of love from city to city, the apostle Paul was employed by God to work special miracles of healing. The sick had handkerchiefs brought to them that had been in contact with his body, and "their diseases departed from them." He was frequently accompanied by Luke, who is specially designated as "the beloved physician," and who, doubtless, exercised his professional skill, as well

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a single flash from the fulness of the Godhead which dwelt in him, having for its end simply to bring home to the minds of men the immediate self-manifestation of this fulness; so too, all subsequent miracles are but single flashes, issuing forth from the immediate divine power of the Gospel, and contributing to make a revelation of the latter to the religious consciousness. Without this itself, and its relation to man's nature, and in the absence of the peculiar conditions which belonged to man's nature in this particular period, all else would have been to no purpose. That which the divine power in the Gospel wrought immediately by itself on man's nature, still allied to God though estranged from its original source—from first to last was the main thing, the end for which all else was but subsidiary and preparatory. It is this that the apostle Paul ranks above all other kinds of evidence, above all particular miracles, describing it as the 'demonstration of the Spirit and of power.' And as this divine power exerted its influence on the inner life of man, so in his outward conduct and actions it manifested itself with an attractive energy; and this, more than all else, contributed to the conversion of the heathen."

as his miraculous gifts of healing, on fitting occasions. Peter, also, was made extensively useful as a healer of the sick, of whom, at times, multitudes were brought to him "out of the cities round about Jerusalem." It was in company with John, that Peter cured the man, "lame from his mother's womb," who was laid daily at the gate of the temple to beg. When the people saw this man, whom they had known for many years previously as a helpless cripple, restored to the use of his limbs, walking, leaping, and praising God, they were filled with wonder and amazement. Then did Peter take advantage of the opportunity presented by the people running together, and surrounding him and John, to ask them "why they looked so earnestly at them, as if, by their own power or holiness, they had made the man to walk;" and then he preached to them of the glory of Jesus, the "son of the God of their fathers." Æneas, the man at Lydda, who had been confined to bed for eight years by palsy, was suddenly restored to health by Peter, who said, "Jesus Christ maketh thee whole, arise." "And all that dwelt in Lydda and Saron saw him, and turned to the Lord." It seems worthy of

remark that, in the sacred record of the miracles of healing performed by the apostles, each instance is followed by a notice of the deep impression which it made on the minds of the people who witnessed it.*

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* Owen (*Works*, *vol.* iv. *page* 462) says, "The gifts of healing are mentioned (1 Cor. xii. 28) in the plural number, because of their free communication into many persons. These healings respected those that were sick, in their sudden and miraculous recovery from long or deadly distempers, by the imposition of hands in the name of the Lord Jesus. And as many of the 'mighty works' of Christ himself consisted in the 'healings,' so it was one of the first things which He gave in commission to his apostles, and furnished them with power for, whilst they attended on him in his personal ministry, (Matt. x. 1.) So also did he to the seventy, making it the principal sign of the approach of the kingdom of God, (Luke x. 9.) And the same power and virtue He promised to believers—namely, that they should 'lay hands on the sick and recover them,' after his accession. Of the accomplishment of this promise, and the exercise of this power, the story of the Acts of the Apostles giveth us many instances. It was one great difference between the miraculous operations that were wrought under the Old Testament, and those under the New, that the former generally consisted in dreadful and tremendous works, bringing astonishment and oft times ruin to mankind, but those others were generally useful and beneficial unto all. But this of healing had a peculiar evidence of love, kindness, compassion, benignity, and was suited greatly to affect the minds of men with regard and gratitude, for long

In the reference made by the apostle James to the duty of the sick, to send for the elders of the church, who were to pray over him, and to

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afflictive distempers or violent pains, such as were the diseases cured by the gift, do prepare the minds of men and those concerned about them, greatly to value their deliverance. This, therefore, in an especial manner, declared and evidenced the goodness, love, and compassion of Him that was the author of this Gospel, and gave this sign of healing spiritual diseases by healing of bodily distempers. And, doubtless, many who were made partakers of the benefit hereof were greatly affected with it; and that, not only unto 'walking, and leaping, and praising God,' as the cripple did, who was cured by Peter and John (Acts iii. 8), but also unto faith and boldness in profession, as it was with the blind man healed by our Saviour himself, (John ix. 30-33, 38,) etc. But yet no outward effects of themselves can work upon the hearts of men, so as that all who are made partakers of them should be brought unto faith, thankfulness, and obedience. Hence did not only our Saviour himself observe, that of ten once cleansed by him from their leprosy, but one returned to give glory to God (Luke xvii. 17); but he whom he cured of a disease that he had suffered under eight and thirty years, notwithstanding a solemn admonition given him by our blessed Saviour, turned informer against him, and endeavoured to betray him to the Jews, (John v. 15-16.) It is effectual grace alone which can change the heart, without which it will continue obstinate and unbelieving, under not only the sight and consideration of the most miraculous outward operations, but also the participation in ourselves of the benefits and fruits of them. Many may have their bodies cured by miracles when their souls are not cured by grace."

anoint him with oil in the name of the Lord, it is questionable whether the "anointing" mentioned were a symbolical act or a medicinal application.* We cannot admit that any such

* Lightfoot says, "That anointing with oil was an ordinary medicinal application to the sick," and adds, "If we take the apostle's counsel (in James v. 14) as referring to this medicinal practice, we may construe it, that he would have this physical administration to be improved to the best advantage, namely, that, whereas 'anointing with oil' was ordinarily used to the sick by way of physic, he adviseth that they should send for the elders of the church to do it, not that the anointing was any more in their hand than in another's, as to the thing itself, for it was still but a physical application, but that they, with the applying of this corporal physic, might also pray with and for the patient, and apply the spiritual physic of good admonition and comfort to him. Which is much the same as if, in our nation, where this physical anointing is not so in use, a sick person should send for the minister at the taking of any physic, that he might pray with him and counsel and comfort him. Besides, it is very common among the Jews, to use charming and anointing together, of persons that were sick of certain maladies. Of this the Jerusalem Talmud speaketh in *Shab. fol.* 14, *col.* 3—'A man that one charmeth, he putteth oil upon his head and charmeth.' And a little after is related what they charmed for, as for an evil eye, serpents, scorpions, etc. And in *col.* 1, is mentioned how 'one charmeth over a sick person in the name of Jesu Pandira.' Now this being a common wretched custom, to anoint some that were sick, and to use charming with the anointing; this apostle seeing that

means was applicable to *every case* of sickness. Is it allowable to suppose that, by the injunc-

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anointing was an ordinary and good physic, and the good use of it not to be extinguished for that abuse, directs them better; namely, to get the elders or ministers of the church to come to the sick, and to add to the medicinal anointing of him, their godly and fervent prayers for him, far more available and comfortable than all charming and enchanting, as well as far more warrantable and Christian." There is good reason to believe that amongst the Greeks, as well as amongst the Jews, inunction of oil was regarded as a remedial agent of undoubted efficacy in several forms of disease.—*See Le Clerc's History of Medicine.* "Ordinarily," says Owen, "there were some outward means and tokens, that were to be made use of in the exercise of this gift of healing. Such were (1.) Imposition of hands. Our Saviour himself, in healing of the sick, did generally 'lay his hands on them,' (Matt. ix. 18; Luke iv. 40.) And he gave the same order unto his disciples that they should 'lay their hands on those that were sick, and heal them,' which was practised by them accordingly. (2.) Anointing with oil. 'They anointed with oil many that were sick, and healed them,' (Mark vi. 13.) And the elders of the church, with whom this gift was continued, were to come to him that was sick, and praying over him, 'anoint him with oil in the name of the Lord,' and he should be saved, (James v. 14, 15.) For these reasons, I judge that this gift of healing, though belonging unto miraculous operations in general, is everywhere reckoned as a distinct gift by itself. And from that place of James, I am apt to think that this gift was communicated in an especial manner unto the elders of churches, even that were ordinary and fixed, it being of so great use

tion to use oil, the apostle meant to indicate that, along with prayer, medicinal agencies of *some kind*, adapted to the case, were to be employed? If so, the passage in question may be regarded as introductory to the age following that of the apostles, when the power of working miracles having been withdrawn from the church, the cure of diseases was left to the ordinary treatment of the physician.*

In the history of Christianity, during the ages that succeeded that of the apostles and primitive Christians, I find very few indications of the workings of charity in the care of the sick. We read in one of Clement's

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and such singular comfort unto them that were poor and persecuted; which was the condition of many churches and their members in those days."

* The great German historian of the church writes. "The passage in the development of the church, from that first period in which the supernatural, immediate, and creative power predominated, to the second, in which the same divine principle displayed its activity in the form of *natural connection*, was not a *sudden* transition, but proceeded by a series of gradual and insensible changes. We should not be warranted, as neither are we in a condition, to draw so sharply the line of demarcation between what is supernatural and what is natural in the effects proceeding from the power of Christianity, when it has once taken possession of human nature."

epistles to the Corinthians that "an unwearied desire of doing good, and a plentiful effusion of the Holy Ghost was with the believers;" that "their care was, day and night, for all the brethren;" "that they mourned over the faults of their neighbours, sympathized with their infirmities as their own, and were ready to every good work." But of the specialties of these good works we learn but little. Again,—in the account of the dreadful persecutions of the Christians at Lyons, in the second century, we read of Alexander, *a physician*, a man generally known for his love of God, and zealous regard for Divine truth, who was suddenly condemned to be thrown to the wild beasts in the amphitheatre, because he had been seen to encourage other martyrs, while in their agonies, to confess Christ;—but we find little recorded of the antecedents of this medical martyr; nothing of his making his profession subservient to the spread of the Gospel; yet we may conjecture that, as he came originally from Phrygia, where the Gospel was well known, he may have been one of the agents by whom it was carried into France, where it took deep root, and bore much fruit then and long afterwards.

It is certain that not a few Christians of the third and fourth centuries devoted themselves, with the utmost assiduity, to the relief of the sufferers from plague and other epidemic diseases. It is recorded, for instance, of Columba, the laborious and much honoured apostle of the ancient Scots and Picts, that, when the multiplicity of his business allowed him to stay at home, he was resorted to for aid and advice, as a physician of both soul and body, by multitudes of all ranks; that his knowledge, skill, and success were so remarkable as to lead many to regard his cures as miracles; and that, whenever he heard any was in sickness, he not only visited him, and prayed for him, and that too with such tender emotion as shewed how much his heart was affected, but also administered medicines, with which he often sent messengers as far as other kingdoms. And it is undeniable that the spread of the Gospel was advanced by such means. Let us bring before our mind some of these in all their vivid connection with the character and spirit of the times. A Christian meets with some unhappy individual, sunk in heathenish superstition, who, diseased in body and soul, had in

vain hoped to get relief in the temple of Esculapius, where so many in those days sought a cure for their diseases in dreams sent from the God of Health. To no purpose also had he tried the various incantations and amulets of Pagan priests and dealers in enchantments. The Christian bids him to look no longer for help from impotent and lifeless idols, or from demoniacal powers, but to betake himself to that Almighty God, who alone can help. He hears, He assures him, the prayers of all who invoke His aid in the name of Him by whom He has redeemed the world from sin. The Christian employs no formulas, no amulets; but simply calling upon God through Christ, he lays his hand on the sick man's head, in faithful reliance on his Saviour. The sick man is healed; and the cure of his body leads to that of his soul."* Laurentius was particularly distinguished by his zeal and energy in such good works.

At a later period of the middle ages, and onwards, there were instituted, in various countries, many societies of monks, whose chief

* Neander, vol. i. p. 100.

object it was to provide physical and spiritual relief for the unfortunate and for the outcast. Can we doubt that the self-denying sacrifices, which many of these men made with cheerfulness, were the fruits of a true faith in Christ, not of a vain desire to work out a righteousness of their own? But, whatever were the *internal* springs of action, the work *aimed at outwardly* and, to a large extent, *accomplished*, was the same which we desire to promote. It is, therefore, in consonance with our present object to refer to the noble examples of Christian charity and devotedness which were manifested by not a few, even in the darkest periods of the church's history. It is recorded that, during the eleventh and twelfth centuries, erysipelas, then called St. Anthony's Fire, prevailed widely throughout Europe, and everywhere caused most extensive ravages. Gaston, descended from a family of consideration amongst the French nobility, in gratitude for his own recovery, and that of his son, founded a society, of which the express object was to furnish nurses for persons affected with this disease. Other societies were formed of laymen and ecclesiastics, who, following the so-called rule of Augustin, under the

direction of a superior, spent their time in taking care of the sick in hospitals; and there were still other societies of men, who devoted themselves more especially to taking care of the leprous, and founded large establishments for the express purpose of receiving and nursing them. "The *ecclesiastics*, in such societies, attended to the religious wants of the patients; preached to them; gave them the benefit of their pastoral care, and the sacraments. The *laymen* undertook to do everything necessary for their bodily relief and comfort; also, to provide for the decent burial of the dead, according to the usual forms. The Dominican, Humbert de Romanis, who lived near the close of the thirteenth century, remarks, with regard to the care of the leprous, that, 'owing to the danger of infection, the impatience and the ingratitude of the victims of this disease, it was one of the most forbidding labours to wait upon them. Amongst thousands, but very few were to be found who could be induced to live with them; for, with many, nature herself revolts at it. And had there not been some, who, for God's sake, fought down the repugnance of nature, they would have been left absolutely deprived

of all human assistance.' Jacob of Vitry says, concerning the persons who devoted their lives to this arduous work of Christian charity, 'For Christ's sake, they bring themselves to endure, amidst filth and disgusting scents—by driving themselves up to it—such intolerable hardships, that it would seem as if no sort of penitential exercise, which man imposes on himself, deserved a moment to be compared with this holy martyrdom.' Female societies, having the same object in view, were also formed.

"But by way of warning, it must be added that that which began in the spirit of a Christian charity, that shrunk from no sacrifice, was, like so many other noble undertakings, imitated and abused in the thirteenth century by a worldly spirit that masked itself under the seemly guise of religion. Jacob of Vitry was forced to make the bitter complaint that many, who pretended to devote their lives to this nursing of the sick, only used it as a cover under which to exact, by various and deceptive tricks, from the abused sympathies of Christians, large sums of money, of which but a trifling portion was expended on the objects for which it had been

bestowed. Innocent the Second passed an ordinance against such fraudulent collectors of alms for Spitals." *

The care of the sick has ever stood out as a prominent feature in all the operations of the Jesuits. Its importance is acknowledged by them; and they have recorded some remarkable instances of the advantages which it has secured for them in various circumstances. But on these we cannot now dwell; we believe that the active members of the world-renowned Society of Jesus have proved how possible it is to wield a good instrument in a bad cause, and to wield it with great effect. May we be enabled to choose the good and to refuse the evil of their example.

It is now exactly three hundred years since the first missionaries to the heathen were sent forth by the *Protestant* churches; but I am not aware of any one of these, nor of their successors during several successive generations, having devoted himself especially to the healing of the sick. For at least one hundred and fifty years, there is no record of any Protestant physician or

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* Neander's History, vol. vii. p. 358.

surgeon having consecrated his profession to the service of Christ in connection with the preaching of the Gospel. But, in the beginning of the eighteenth century, the importance of caring for the sick amongst those to whom the Gospel is preached was most impressively set before the Church by General Codrington, an Englishman, who bequeathed to the Society for the Propagation of the Gospel in Foreign parts (founded in 1701) some property which he possessed in the West Indies. The objects which he had more particularly in view will be seen from the following abstract of that part of his will which relates to them:—"General Codrington gives and bequeaths his two plantations in the island of Barbadoes, and part of his island of Barbuda, to the Society for the Propagation of the Christian Religion in Foreign Parts, erected and established by his good master King William the Third; and desires that the plantations should continue entire, and 300 negroes, at least, always kept thereon, and a convenient number of professors and scholars maintained there, who are to be obliged to study and practise physic and chirurgery as well as divinity, that by the appa-

rent usefulness of the former to all mankind, they may both endear themselves to the people, and have the better opportunity of doing good to men's souls, whilst they are taking care of their bodies; but the particulars of the constitution he leaves to the Society composed of wise and good men."

Since that period, after many difficulties arising from law-suits with the executors, the erection of a college at considerable expense, and the devastations occasioned by frequent hurricanes, an establishment was formed and supported by the produce of the estates, consisting of a president and twelve scholars; stipends being allowed to those who were desirous of prosecuting their studies in England, either in divinity, law, or physic.*

The benevolence of General Codrington in devising this scheme cannot be questioned; but

* Brown's History of Missions, vol. iii. p. 410. It is stated elsewhere that the value of the property bequeathed for the above-mentioned object was £2000 *per annum*. General Codrington was the ancestor of the present Baronet of Dodington.

it admits of a doubt whether his wisdom were as great as his charity. The circumstances of the West India islands were not such as to make any of them fit for the establishment of a school of medicine, even on a small scale. It is not, therefore, wonderful that General Codrington's plans could not be carried out to the letter; nor that the college failed to fulfil the purpose of its founder. Nevertheless, it becomes us to honour the memory of a man, who may well be called the father of modern medical missions, who seems to have thoroughly appreciated the importance of medical agency in connection with evangelistic operations, and who devoted larger funds for the promotion of the object than any other person ever did before him, or, so far as we know, has done since. And it stands out as a remarkable fact that the man who devised such liberal things for the furtherance of the work which we also desire, however humbly, to promote, was a member of the *military* profession.

The first instance of the consecration of medicine to missionary work, that we have any account of, in the eighteenth century, was in

the sending forth, by the Moravians of Germany, of two well educated medical men, Dr. Christian F. W. Hocker, and J. Rueffer, surgeon, to Persia, to labour amongst the Gaures, a people supposed to be descended from the Magi, or wise men of the East, who came to Bethlehem at the birth of Christ. Hocker and his companion went by Aleppo, through the desert to Bagdad. On their journey thence to Ispahan, they were attacked by Kurd robbers, and despoiled of all their property. In great misery they reached Ispahan, where they were kindly treated by some fathers of the Roman Catholic Church. They might have settled at Ispahan in a medical capacity, with the fairest prospects of success, as the Persians have a very exalted idea of the learning and skill of physicians from Europe; but having no hope of being useful in their principal character as missionaries, they resolved to go to Cairo, there to await advices from Europe. On their way thither they were again robbed and reduced to the utmost extremity. Rueffer died at Damietta; Hocker returned to Europe in 1750. In 1752 he again set out with the intention of practising as a

physician in Cairo, and preparing himself for a mission to Abyssinia; but, after much toil and years of suffering, in which he visited Constantinople, and returned for a time to Germany, he was obliged to abandon his purpose of entering Abyssinia. Nevertheless, he continued in the patient exercise of his medical profession at Cairo until 1783, hoping that a door might at length be opened for promoting the interests of religion in Abyssinia.

As an example of what missionaries are sometimes brought into contact with when *pestilence* spreads amongst the people of their charge, I may mention here the account given of a dreadful epidemic of small-pox, of which the celebrated Danish missionary Hans-Egede was an eye-witness, in Greenland, in 1733. Egede was not a medical man, but he felt constrained to do all he could for the suffering people. The disease (unknown previously in Greenland) had been imported from Denmark. It assumed at once a most malignant form, and spread rapidly, in consequence of those affected running from place to place seeking relief. Most of the patients died within four days. Some in despair stabbed themselves, or plunged into the sea to put an

end to their sufferings. Such was the general consternation, that the living did not as usual mourn for the dead, not even for their nearest relations. In his efforts to render the miserable people such help as he could give, Egede exerted himself with superhuman devotedness. He travelled everywhere, and, with the aid of the other missionaries, he lodged all the sick who fled to him. 'The missionaries laid as many of them in their own houses, and even in their bedrooms, as the places would hold, and attended and nursed them as well as they were able, though the stench of the sick and dying was almost insufferable.

Of how great advantage to all parties, and in every sense, would a regularly educated physician have been in these trying circumstances!

It was about the time when Hocker was terminating his medical missionary labours in Egypt, that John Thomas, an English surgeon, who had previously made two voyages from London to Calcutta, as surgeon of the Oxford East Indiaman, began to feel a deep interest in the miserable condition of the Hindus, which led him to resolve to remain in Bengal, and to preach to its benighted people the unsearchable riches of Christ. Mr. Thomas

laboured amongst them from 1787 till 1792, when he returned to Europe. As several of the Hindus had manifested no small interest in spiritual things under Mr. Thomas's ministry, the Baptist Missionary Society, just then formed at Kettering in Northamptonshire, were encouraged to request him to return to Bengal as their agent. Having consented to this, the Society supplied him with a colleague in the person of the well-known Dr. Carey. These reached India together at the end of 1793. Many difficulties and trials were encountered by them for several years; not a few of which trials were occasioned by the imprudence and peculiarities of temper of Mr. Thomas. Yet there can be no doubt of his having been a sincere Christian, and a most devoted missionary. It was through the exercise of his *surgical skill*, that, after thirteen years of apparently fruitless labour, a deep impression was made on the heart of a Hindu of the name of Krishnu, who became a true convert, and as such, the first-fruits of the mission. This man had had his shoulder dislocated, and sent for Mr. Thomas, who reduced the luxation, and then talked to the patient of the good news of salvation by Jesus Christ. The

man had heard the Gospel before, and was struck with it. He now confessed he was a great sinner, and, with many tears, cried out, "Save me, Sahib, save me." Three or four weeks after, Krishnu, and another of the natives named Gokul, came and ate publicly with the missionaries, and thus broke caste, which had hitherto seemed a fortress next to impregnable. It is said of Mr. Thomas that "he had exquisite pleasure in doing good; it was a perfect luxury to him." Happily, his medical skill enabled him largely to gratify his feelings to the great advantage of the poor Hindus, multitudes of whom flocked to him for advice; many from great distances; there were almost always patients at his door; and, when he travelled through the country, his progress was often hindered by the crowds who sought earnestly for his advice.

Contemporaneous with the labours of the last-mentioned missionary were those of Dr. John Theodore Vanderkemp, who went to South Africa in 1798 as one of the agents of the London Missionary Society. In the history of this remarkable man, you will, I am sure, take a lively interest, when I tell you that, although born in Holland, he received his medical edu-

cation at this university, where he graduated in 1782. In early life, he was an officer in the Dutch army. Having made a narrow escape from drowning in a canal, his mind was brought under serious impressions of the importance of sacred truth, and he resolved to devote himself to a life of activity in the service of his Divine Master. With this view, he commenced the study of medicine. His thesis is an elaborate disquisition *on life in its physiological aspects*, and on the vivification of the material constituents of the human body. He seems to have aimed at the production of a testimony in favour of the doctrine of a special providence, in opposition to the gross materialism, which, at the time when he studied and wrote, was so rampant in this, as well as in most of the other medical schools of Europe. As sixteen years elapsed between the time of his graduation and that of his going to Africa, Dr. Vanderkemp must have been rather too far advanced in life at the latter period to admit of his entering with success upon the study of the native tongues. Nevertheless, it is stated that, by dint of the greatest assiduity and perseverance, he was enabled to acquire as much of the Caffre language as was required for

his useful intercourse with the people. He laboured amongst them with the utmost zeal; living habitually in their society; conforming to such of their habits as he considered innocent; and even marrying one of the native females. By this last act, and others, more or less of a piece with it, he incurred the displeasure of not a few, who yet regarded him as an eminently useful, as he was, undoubtedly, a most zealous and self-sacrificing man. It is understood that he made use of his medical skill to a large extent, and that, through its instrumentality, he was enabled to secure a high place in the affectionate regards of the people. There can be no question as to the strong footing which Christianity has latterly obtained in South Africa, and it is probable that not a little of this has resulted from the effects of the indefatigable labours of Vanderkemp.

Notwithstanding the apparently useful labours of Thomas and Vanderkemp as medical missionaries, the societies which sent them out (namely the Baptist and the London Missionary Societies) appear to have done little or nothing for many years, in the way of inviting or encouraging well-qualified medical men to devote

themselves to their service. It seems likely that the imprudences, of which they had had cause to complain, in the conduct of *both* of these pioneers, led the directors of the societies to stand in doubt of all members of the profession, which they represented. This doubt was probably strengthened by what they heard about this time, of the inconsistent proceedings of a son of the excellent Indian missionary Carey, who, having studied medicine, went to Ava (in 1807) where he was soon employed by the imperial family, received a title from the emperor, and was so caressed by the grandees of the empire, as to be tempted to forget his high calling, and to sink the missionary in the mere physician. There is good reason for believing that poor Carey's fall was long after remembered and pointed at, to the disparagement of the employment of medical men as missionaries. To you and to us, although we may be able to look above and beyond such individual instances of the working of human frailty, and to believe that they are exceptional, these occurrences are yet fraught with lessons of solemn warning, to which we ought all to take heed;

remembering ever, that "he who thinketh he standeth" is most in danger of falling.

Carey was succeeded in Burmah by Colman (1818) and Price (1821), who were intimately associated with the Rev. Dr. Judson, whose praise, as a laborious and wise herald of the cross, is in all the churches. Of Dr. Price, it is recorded that, "immediately after his arrival, he commenced the practice of his profession in Rangoon. His success in several operations, specially on the eyes of those suffering from cataract, was made known in Ava; and, only seven months after his arrival, an order was received from the king, summoning him to the capital, on account of his medical skill." So that he ran the same risk of being spoiled by the flatteries of the great, as did his predecessor at the same court, but, providentially, without suffering from the evil as Carey did.

We now come to speak of the progress of medical missions in our own times, or, at least, of the doings and writings of those who are still with us.

It is more than thirty years since Mr. Douglas of Cavers directed public attention to the

importance of employing medical men as missionaries. This he did, first, in his interesting little book entitled "Hints on Missions," published in 1822; and subsequently, in the article "Missions," in the 7th Edition of the Encyclopædia Britannica. From these I quote a few sentences:—"If, with scientific attainments, missionaries combined the profession of physic, it would be attended with many advantages; for there is something suspicious in a foreigner remaining long in a country without an openly-defined object. The character of a physician has been always highly honoured in the East, and would give an easy and unsuspected admission to a familiar intercourse with all classes and creeds." "He who is a physician is pardoned for being a Christian; religious and national prejudices disappear before him; all hearts and harems are opened; and he is welcomed as if he were carrying to the dying the elixir of immortality. He, more than any one else, possesses the *mollia tempora fandi*." "In many cases the cure of the body, as in the early miracles, might precede the cure of the soul; but if not, some positive good is done when science is enriched, diseases removed, and the gratitude

and respect of many are secured." "The employment of physicians as missionaries, which has only very lately and very partially been practised, has been attended, on the limited scale on which it has been tried, with yet happier results than could reasonably have been expected. It has opened a new fountain of humanity in the hard and selfish breasts of distant nations, to see the strange spectacle of a man, in imitation of his Saviour, 'going about doing good,' and healing the sick. Those who are insensible to the diseases of the mind, feel with sufficient acuteness the diseases of their bodies; and though missionaries may complain of the want of listeners, a missionary physician has no reason to complain of the want of patients; nor has he reason to lament the want of success in treating the cases that are submitted to him." "What interest would the residence of an intelligent physician possess at Jerusalem, —of one who was a physician indeed, in the largest sense of the term, and wise in the knowledge of nature? We need such a commentator even for the Scriptures; an intelligent and resident spectator, to view and to record again the same natural appearances which were viewed

by the sacred writers of old, that we may stand again in their position, see anew the same objects, and affix the same significance to their terms. What a benefactor he might be to the weary and superstitious pilgrims from distant lands, who might return home with prolonged life, and carrying with them the words of that life which will never end! The Moslems despise the Franks, but not the Frank physician."

Views such as these, so eloquently expressed, could scarcely fail, it might be imagined, to lead many to think seriously on the subject, and to desire to devote themselves to so good a work. But their effect in this way was not very obvious at the time of their publication. Doubtless, however, their promulgation has contributed not a little to the increase of general interest in the subject, which of late years has taken place.

It was in 1807, that Protestant Christian philanthropy first broke ground in China. Dr. Morrison was then sent forth by the London Missionary Society; and in 1819, Dr. Livingston, a surgeon in the service of the East India Company, furnished to Dr. Morrison some very important information on the condition of the

poor in China, their diseases, treatment, etc. Soon after, "Dr. Morrison began to form a library of Chinese books—procured a complete assortment of Chinese medicines,—and opened a dispensary for supplying the Chinese poor with advice and medicines, which he superintended himself for an hour or two every morning. Dr. Livingston also gave pretty constant attendance and rendered valuable assistance, which his long residence at Macao had prepared him for in a very eminent degree." With similar views, Dr. Colledge opened an eye-infirmary at Macao in 1827. In ten years, 4000 patients were treated there. We cannot, however, venture to affirm that it was with a distinctly evangelistic object that Drs. Livingston and Colledge set themselves to practise medicine gratuitously amongst the poor Chinese; yet, undoubtedly, the effect of their benevolent labours was eminently conciliatory, and must have tended greatly to prepare the way for the more complete development of that system of medical missionary operations, which was soon after introduced, and which is now so efficient.

The Rev. Dr. Peter Parker was sent to China by the American Board of Commissioners for

Foreign Missions in 1835. He commenced his labours at Singapore, where, in the course of eight months, upwards of one thousand Chinese were treated by him. He then removed to Canton, and there opened an Ophthalmic Hospital in October 1835. The extreme frequency and severity of diseases of the eye amongst the Chinese, pointed out this as the means of doing good best adapted to the necessities of the people.

The successful labours of Dr. Parker quickly produced a great sensation; and patients of all ranks, and from all parts of the empire, flocked to the hospital. All kinds of treatment, even to the use of cutting instruments, of which the Chinese have a great abhorrence, were cheerfully submitted to. Advantage was taken of the deep impression which was made on the minds of the patients by the results of practice, to direct them to the great Source of all healing influence. In the course of two years, 4575 persons were treated at this establishment, at an expense of little more than £900 sterling. Reports of the cases were published quarterly in the "Chinese Repository" by Dr. Parker. These contain many interesting particulars relative to the history and treatment of Diseases

of the Eye, and are an earnest of the valuable contributions to medical science which may be looked for from more extended operations of the same nature. Dr. Parker was mainly instrumental in establishing the Medical Missionary Society in China, which undertook to provide hospital accommodation and drugs for medical missionaries. Other missionary societies in America have sent medical agents to China, namely:—The American Presbyterian Board, the Baptist Board of Foreign Missions, the Southern Baptist Convention, the Missionary Society of the Methodist Episcopal Society, the Board of Foreign Missions of the Protestant Episcopal Church; in all thirteen Medical Missionaries.

The London Missionary Society, in 1839, sent William Lockhart and Benjamin Hobson, M.B., to Macao. Hobson, first at Macao, then at Hong Kong, and latterly at Canton, has laboured most abundantly. His hospital at Kum-le-foo, one of the suburbs of Canton, has had, for a long time past, about 20,000 patients a year. He has done much to promote a spirit of enquiry amongst the people, by publishing epitomes of some branches of

Natural Science, viz., a work on anatomy, and another on comparative physiology. He has also trained several Chinese youths in the science and practice of medicine; and these now assist him to a considerable extent. His hospital is daily visited and used as a preaching station by some other missionaries and native evangelists.

Mr. Lockhart has remained at his post, amid various changes, for nearly twenty years, and has proved a most valuable missionary. He has resided at Shanghae ever since the opening of that port, where he has seen many vicissitudes. The Reports of his hospital, copies of which have been sent to us yearly for a long time, are always deeply interesting; and not unfrequently contain notes of cases, remarkable in a professional point of view.

Mr. Hobson was succeeded at Hong-Kong by Mr. Hirschberg, who, however, has latterly removed to Amoy, where he had, till within the last two years, as an associate, a graduate of this university, Dr. James Young, whose early removal by death we are now mourning. He was an agent of the English Presbyterian Church, and the fellow-labourer of the Rev. W. C. Burns,

who bears the strongest testimony in favour of the efficiency of the aid he lent to the mission, than which there is not at present a more prosperous one in China.

I might mention the names and the labours of many other medical men, who have for years been strenuously devoting all their skill and energies to the good work of aiding in the evangelization of China. Dr. Cumming (a self-supported missionary from America) at Amoy, where he resided five years, and then returned to America, Dr. M'Gowan at Ningpo, Drs. Devan, Ball, and Happer at Canton, Dr. Burton at Shanghae, Dr. Hepburn at Amoy, and others, have all distinguished themselves in this important field. We have enjoyed the great privilege of receiving many communications from some of these gentlemen; Drs. Hobson and Happer have visited us personally; we have heard the strongest testimony borne to the faithfulness and efficiency of their work by a few friends, ministers, merchants, and medical men; and all concur in assuring us that it is a great and a good work that they carry on, and that it has been instrumental in spreading far and wide over the nation an influence in favour

of the Christian religion, which is perceived to inspire its followers with benevolence, and to confer evident blessings on the poor and needy. Of one of them it is published that "his influence as a Christian physician is such as might well be envied by the most favoured of his professional brethren in the greatest city of the civilized world." In his "Medical Notes on China," published in 1846, Dr. John Wilson, Inspector of Naval Hospitals, thus strongly gives his opinion of the medical mission work, (p. 179) :—

"Among the most promising means now employed for reforming or rather revolutionizing the moral, intellectual, and social condition of the Chinese, the writer would rank the Medical Missions, lately established on their shores. In thus expressing himself, he does not wish to be understood as undervaluing, much less disparaging the other instruments, and the men who use them, for the same philanthropic purpose; but the medical missionaries have the advantage of addressing themselves, in the first instance, and in a way not to be overlooked or misunderstood, to the senses of the people whom they wish to enlighten. Without fee or hope of pecuniary

reward, they heal the sick and give sight to the blind, knowing that they thus do unconditional good, and hoping, through the palpable benefit thus conferred, to open an easy channel of access to the affections and intellects of those with whom they deal; who may become, in their turn, instructors and guides to the people with whom they shall afterwards associate. In their frequent, and from its very nature, familiar intercourse with the afflicted, the medical missionaries possess advantages, which the man who addresses himself to the understanding only cannot obtain. They have, consequently, more potent means of touching the heart, and turning feelings of gratitude into instruments by which they may act powerfully on the dark mind." In the hospitals "everything which benevolence can devise, and which care and zeal can accomplish, is effected for the patients, and thence a large proportion of those admitted return to their native towns and hamlets, to tell their neighbours what the strangers have done for them."

Let us enter somewhat into detail with regard to these missionary hospitals, of which, even as they existed in 1842, so competent a witness as Dr. Wilson wrote in such hopeful terms.

Of the existing hospital and dispensary at Canton, Dr. Hobson writes thus :—

"The entire length of the premises is not far short of 500 feet, and the width is 45 feet, excepting towards the water, where they become narrower. There is a good accommodation for the residence of the missionary and his family, for the native medical assistant, tract distributors, and others connected with the Mission. There is a spacious chapel, which has seats for 200 persons, and is sufficiently large to seat 500 ; a good dispensary with separate entrances for men and women ; a depository for tracts ; a reception-room for Chinese visitors ; and there are twelve rooms now on the ground floor, which hold 45 beds, besides room for more wards to accommodate 100 patients, whenever needed. The situation is most advantageous for an hospital, and is easy of access both by road and water. The place is light and airy, and being fitted up in Chinese style, is pleasant to the Chinese taste. The lease is for ten years, at a rental of $730 per annum. A similarly sized building placed near the foreign factories would be nearly $2000. A few years ago, a Chinese paid $1400 a year to stow tea and other goods

in it; but since the opening of the ports, such buildings have much deteriorated in value, and not half that sum could now be obtained from a Chinese.

"The number of persons who have come to the hospital, including those on the Sabbath, (who are also mostly invalids), amounts altogether, from January to December 1853, twelve months, to 21,965; from January to the end of June 1854, to 13,554. In May, it amounted to 3023, and in June to 3420; the proportion being about two men to one woman. The patients are chiefly of the poor class, and the diseases generally of a chronic, cachectic form, the result of poverty, dirty habits, a foul atmosphere, and bad diet. Continued attention to such cases requires one to remember the command and promise, 'Be not weary in welldoing, for ye shall reap if ye faint not.'

"Four days every week, the sick are prescribed for, and, on these occasions, during the summer months particularly, the hospital is like a market, and a good opportunity is afforded for teaching the things concerning 'the kingdom of God.' There are also never less than four religious services weekly, besides familiar in-

struction and the distribution of the New Testament and religious books, at the close of the services."

"At Shanghae, the daily routine of the hospital is as follows:—At half-past seven o'clock in the morning, the bell rings, and shortly afterwards, such of the in-patients as can attend, with the servants and others on the premises, assemble in the hall, when a portion of Scripture is read, and prayer is offered up in Chinese; at nine, anything that is wanted early in the day for the in-patients is attended to; at half-past eleven, the bell rings for half an hour, to give notice that it is the time for the general work of the hospital to commence; when the out-patients are assembled, a religious service, in Chinese, for the instruction of all present, is held. This part of the duty is kindly performed by the Rev. W. Muirhead, and Rev. J. Edkins; after this is finished, the female out-patients are admitted into the dispensary, when their diseases are inquired into, and the medicines given to them; then the male patients are admitted; bamboo tickets are given to them, after the Chinese service, by the door-keeper, and they are called into the dispensary, ten at a time,

according to the number of their tickets, when they are examined one by one, and the medicines given to them; any case requiring special attention being reserved till the others are finished. As the patients leave, paper tickets are given, telling them when they are to return. From 50 to 100 and 150 out-patients are thus attended to on Monday, Wednesday, Thursday, and Saturday. On Tuesday and Friday, a dispensary is opened at one of the chapels belonging to the London Missionary Society in the city, when the same general plan is adopted. In the evening, the in-patients are again seen, and at all times accidents and cases of sudden sickness are relieved. There is much that is imperfect in the carrying out of all these arrangements, but an endeavour is made to have each day's work done as efficiently as, under the circumstances, can be accomplished, and, it is hoped, not without benefit to those who seek relief."

The following interesting account of the proceedings at the Canton hospital on Sabbath was lately published by an eye-witness in one of the London journals:—

"We recently spent a Sabbath there; and

the scenes of that day—and they are the scenes of every Sabbath-day there—were such as would enlist the interest and prayerful hope of every friend to Christian missions. At eight o'clock A.M. we joined a company assembled in an upper room. Three native members of the Christian church were there; and, seated round, were upward of a score of Chinamen, most of whom were patients, or their attendants from the wards. A copy of our Testament was handed to each man, and, for many of them, the place was found; for they had never seen that Book of Life before. A promising young Christian gave a simple, clear, and earnest exposition of the appointed verses; which was followed by a fuller statement, or more fervent application, from Dr. Hobson. Then came prayer; but, first, a pause: for one-half were utter strangers to the worship of the 'eternal, immortal, invisible, and only true God.' They had never bowed but before some image or some tablet representing deity; and, as the heathen idolators always do, they wondered greatly at our kneeling down for prayer to the unseen God.

"The patients were mustering early on the

chapel seats—which, by the hour of eleven A.M., were well-nigh filled; and the places appropriated to those connected with the hospital were occupied. At that hour, the aged evangelist, Leang Afah, walked to the preacher's seat.* The order of conducting service was similar to that of congregational churches at home, but the aged man adopts the custom of his country sages, and sits to teach. On the occasion we refer to, he expounded, closely and vigorously, the apostle Paul's address to the Athenians, and his hearers were attentive. As he concluded his address, the 'foreign teacher' stepped forward to the table. With the earnest affection and effort of an acknowledged friend, (for such is the medical missionary) are they urged to lay hold on eternal life. But the heart of the Chinaman is darkness, hardness, and indifference. 'Master, we have toiled all the night, and have taken nothing,' is often the saddened and depressing thought with which the missionary surveys his labour. But there is, at times, a stillness and a drinking-in atten-

* This remarkable man, the first fruits of Dr. Morrison's mission, died shortly after the above was written.

tion, which are, at least, encouragingly significant of the Spirit's work of preparation. It was thus at the service we attended.

"After the preaching of God's word, we entered the consulting-room, and saw ability to relieve the suffering mixed with the charity which careth for the soul. Like a market was the place outside; for the patients were numerous, but two tract distributors were busy among them, and, now and then, a knot of listeners would gather round them to receive some explanation; and, seated at a table, was Leang Afah, explaining to a goodly circle of those waiting to be healed, the Book of God, or answering their objections to his preaching. Surely it was a goodly sight, and the Lord of the harvest will bless such labours, if His servants ask it of Him.

"The afternoon was no less profitably employed by the indefatigable missionary. He was seen leading on the two native Christians from ward to ward, and, in each ward, they read, conversed, and prayed, until all in that hospital heard of that Saviour 'whom to know is life eternal.'

"On Monday, Wednesday, and Friday of every week, the hospital is again opened for

preaching and healing the diseased. At the time we write, the attendance is greater than has ever been known, although in the month of June it amounted to upwards of 3400. From the hours of ten A.M. to 3 P.M. is the morning engaged in addition to the attention called for by in-door patients. The wards are filled with wounded soldiers, and three large boats are lying close to the hospital, which have brought men from the country parts, where there is now fighting. Including attendants on the sick, there are 100 people residing in the hospital—October 1854."

And what, you are ready to ask, do the reports of these hospitals tell of the state and treatment of disease, as it is met with amongst that remarkable people, who are the objects of the medical missionaries' care. To satisfy you fully on this head, would require a much longer time than it is possible to devote to it at present. But I must state that the reports published by Drs. Parker, Hobson, and Lockhart are deeply interesting, and, professionally, of much value. In all, great prominence is assigned to diseases of the eye, which are especially prevalent throughout China. Severe catarrhal ophthal-

mia and its consequences are very common. For instance, amongst 11,028 cases treated at the Shanghae Hospital in 1853, there were of—

	Cases.		Cases.
Catarrhal ophthalmia	410	Irregularity of pupil	50
Granular lids	402	Hernia iridis	19
Chronic conjunctivitis	300	Loss of both eyes	58
Opacity of cornea	378	Do. one eye	70
Pannus	184	Fistula lachrymalis	6
Leucoma	120	Contraction of tarsi	24
Ulceration of cornea	180	Trichiasis	130
Conical cornea	25	Entropium	81
Staphyloma	15	Ectropium	13
Cataract	15	Pterygium	134
Amaurosis	12	Lippitudo	200
Synechia	32		

Making in all, 2852 cases of eye disease, while there were only 939 of pulmonary disease; of dyspepsia, 980 cases; rheumatism, 612; ulcers, 726; and intermittent fever, 570.

Again, at Amoy, under Dr. Hepburn, in 1845, of 1862 cases, 571 were of diseases of the eye and its appendages, while there were only 244 of the respiratory organs, and 393 of the digestive organs.

At the hospital in Canton, conducted by Dr. Parker, and chiefly known as an ophthalmic hospital, in two and a half years, 8247 cases were prescribed for; of these, upwards of 5000

were of eye diseases; 1633 of chronic ophthalmia; 365 of acute ophthalmia; 941 of nebulæ; 762 of entropia; 456 of pterygia; 329 of cataract; 300 of lippitudo; 136 of complete amaurosis, etc.

What a field is here presented for studying diseases of the eye! The comparison of their features in China with those which they present in this country is very interesting and suggestive; but into such topics I must not at present enter.

The reports of Dr. Parker's hospital have frequently contained histories of very remarkable cases. Not a few of these were of stone in the bladder, in patients who had endured much suffering before applying to Dr. Parker. Consequently, some of the stones removed were of a very large size; and the necessary operations correspondingly severe.

A curious feature of the reports of the medical mission in China is the translation which is sometimes given of the scrolls, written by patients who have been cured, in expression of their gratitude. This seems to be frequently done; and is sometimes repeated yearly for a long time. Let me give you one or two examples of these

scrolls of gratitude:—"February 26th, 1849. Chúshú, a Manchu, æt. 54, had a fungoid tumour of the size of an orange, situated upon the back, near the right scapula and spine. The tumour was readily and successfully removed. Before leaving the hospital, the patient made repeated solicitations to be allowed to send an artist to take the portrait of the surgeon; his importunity was at length acceded to, and soon there was presented a portrait, taken in water colours, by the side of which, on the same canvas, was the following inscription in poetry, and an account of his case, and what he had seen in the hospital.

"What man is that? America's noble and disinterested man, who does to others as he would that others should do to him. His country is different from ours, his feelings are the same. In all distresses and diseases, he feels the sorrows and joys of others as though they were his own. Those cases which require the use of instruments, and which are difficult to others, are easy to him. He cherishes a mind that is divine, and bears the visage of Budha; a full halo of glory surrounds his deeds, and he deserves immeasurable longevity. Parker's meritorious virtues are innumerable

as the sands of the ever-flowing river. I denominate him a '*Yé-Sú*.' What say you, yes or no?"

A note from a patient, from whom a calculus was successfully extracted five years since, is here given.

"On a former occasion (1845), I was indebted to the 'great nation's arm' from America for extracting a calculus. By simply administering one golden pill, the dangerous disease was instantly expelled, and, by his assistance, the drought-withered vegetation (*i. e.* the patient) was vivified, so that he may be compared to the [ancient] Pien Tsioh. I am heavily laden with (a sense) of his exalted goodness, and I not merely bear upon my head his kindness, [weighty] as the mountains *Hwá* and *Lui* (said to be the loftiest mountains of China), but I have received his no slight favour. I respectfully present him these ten fowls and hundred eggs, as a slight manifestation of my heartfelt gratitude, and, prostrate, pray he will be pleased to receive them. His younger brother, Yieh Kiuen, of the district of Sz'hwui, knocks head."

I give you one other extract from one of Dr. Parker's interesting reports.

"No operations in this hospital have ever excited so much surprise and attention on the part of intelligent Chinese, and officers of Government, as the three first cases of lithotomy. They were also much struck by the case of a beggar from Macao, who had a tumour of extraordinary magnitude, upon the side of his face and head. When it became so large as to disable him from labour, he had no resource but that of begging. This burden, though one that would weary a man to bear an hour, he could not put off for a moment, day or night. He had long been a loathsome and pitiable object to the citizens, and when I was at Macao, as I passed him in the streets, he presented written appeals, from unknown authors, to my sympathy, and requests that he might be relieved of his burden. The tumour, measuring two feet and six inches circumference, and weighing a few ounces short of nine pounds, was lately removed. The man quite recovered in three weeks. The magnitude of the operation, the elliptical incisions being about 18 inches in length, and the adhesion of the base over the carotid artery and the parotid gland being deep and strong, rendered it impossible it should be performed without solicitude.

Mingled hopes of success, and fears for the worst possible consequences, rendered earnest in the use of means to prepare him for whatever might be the divine allotment. He was informed that others had fervently entreated the Most High God to save him, but that it was a desire that he should lift his own heart to Him who alone could succeed the means about to be used. When laid upon the operation table, he was *again* reminded, that, after the most careful attention to his case, the conviction was strong that the operation was feasible and judicious; still it could not be denied that it was formidable, and he was urged to lift his heart to the God of heaven, and to the only Saviour. Our prayers were so far heard as to grant perfect success to the means used for prolonging his life. He is now porter to the hospital, where he acquits himself well. Let me here request the prayers of all Christians, that not only temporal, but spiritual and eternal blessings may be granted to these objects of deep and protracted solicitude."

All the missionaries in China have done something in the way of conveying instruction in the science and practice of surgery and medicine to promising Chinese youths, some of whom have

proved apt pupils, and subsequently, able practitioners. But it is obvious enough that the missionaries are so much occupied with their own work that they have very little leisure to teach. In their most laudable attempts, they ought to obtain from us every possible encouragement.

Of the excellent capacity of the Chinese for the reception of scientific truth, you and we have had a most satisfactory example in the progress of our friend Dr. Wong Fûn, who, having passed through his medical curriculum at this University with much credit to himself, is still amongst us, to improve his practical skill and exercise his talents, before entering upon that "mighty and magnificent mission" (as Professor Simpson characterized it in his graduation-address) which we trust awaits him on his return to his native land. In presence of my esteemed friend, I will not venture to say more than to assure him and you that he has our best wishes and earnest prayers for his future welfare and usefulness.*

During the year 1854, I find, from a docu-

* While these sheets are passing through the press, Dr. Wong Fûn is preparing to return to China, whither he goes as a medical agent of the London Missionary Society.

ment lately received, that about 52,000 persons were treated in the five mission-hospitals now established in China.

The following gentlemen have recently been added to the medical mission staff:—Dr. Wiley (American) at Fuhchau. Mr. Points (Am.) at Shanghai. Dr. Kerr (Am.) at Canton. Dr. Kelly (Am.) and Dr. Parker (Eng.) at Shanghai. Dr. Goëking (Prussian) at Hongkong.

Before passing on to review the proceedings of medical missionaries in other foreign fields, let us advert to the reflex effect of these proceedings in China on the minds of the friends of missions at home. This certainly was of well-marked character, leading to some earnestness of action, although, alas! it must be admitted, lamentably incommensurate with the magnitude and growing importance of the object.

The first notable expression of interest in the work carried on in the east, which was given publicly, was contained in an oration delivered at a meeting of the College of Physicians of London in December 1834, "On some of the Results of the successful Practice of Physic," by Sir Henry Halford, then president of the college. Proceeding from such a source, and addressed

to such a body, this address must ever be regarded with much interest. I therefore quote a few sentences :—

"I do not," said Sir Henry, "intend to advert to the pecuniary fruits of our toil, nor do I mean to speak of the honours awarded to physicians, for those distinctions are more limited and rare in our profession, than in either of the kindred ones. No—I contemplate the *moral influence* which the cure of the ills of the body has upon the minds of patients. I allude to that deference to the physician's judgment on other subjects, which follows his successful exercise of it over pain and sickness—to that gratitude and attachment, which is the sweetest reward of our anxious and laborious life.

"It is your peculiar privilege, my brethren, in the daily exercise of your calling, to go about doing good; and, from the moment you have made choice of your profession, it ought to be a gratification and an encouragement to you to recollect, that the great Author of our salvation first conciliated the attention and good-will of the multitudes which followed him, by healing their sick. This first disclosure of His

miraculous power was, indeed, followed by a still more awful manifestation of it, by raising the dead—a display well calculated to awaken the whole world to His Message of Mercy." * *

"Nor is it possible to find a happier moment to create and establish a confidence and a regard in the heart of the sick person, and of those who are attached to him, than this, in which his own hopes and fears, and those of his friends, hang upon the physician's counsel and his decision." * * *

"We cannot expect the Chinese to grasp with eagerness at our improvements; yet the cure of diseases, set down at once as fatal in their experience, must be likely to facilitate the introduction of our knowledge, and add most humanely to their comfort and civilization, and not to their temporal happiness only, but to their future felicity, by the introduction of the Holy Scriptures amongst them by this avenue.

"With those who practise upon the Chinese system of physic, if system it can be called, is it possible that the acquired knowledge of his profession in an English medical practitioner should come into competition, without the greatest advantage in his favour? Is it pos-

sible that his knowledge of anatomy, by which he is enabled to detect the seat of disease, his acquaintance with chemistry, and all other resources of his art, by which he administers effectually to maladies within the reach of human skill, should not give his patients, and those who surround them, a greater confidence in his judgment than in that of a feeble native practitioner? Be it understood, however, that I do not claim your acknowledgment of superiority for an Englishman of superficial knowledge only. In our profession a little knowledge may be a dangerous possession. And it is on this conviction that I humbly propose that those who are to be educated to become missionaries, after having had their minds thoroughly imbued with moral and religious principles in their first scholastic discipline, shall then attend to anatomy and chemistry and other courses of medical lectures, and, for a certain time, frequent some one of the great hospitals, so as to qualify themselves to practise physic and surgery, as if they were to prosecute our profession as their means of living."

Soon after the delivery of Sir Henry Halford's oration, articles on the subject of Medical Mis-

sions were published in the Scottish Christian Herald. These attracted the notice of several members of the medical profession in this quarter, and prepared their minds to welcome further information on the same subject.

Taking advantage of the interest which had been excited both in Britain and America, Dr. Parker of Canton came hither in 1840, visited London, Edinburgh, Glasgow, Liverpool, and several other large cities, for the purpose of stirring up both the members of the medical profession and the public to lend substantial aid to the Medical Missionary Society in China, to enable it to establish and support hospitals at various places on the coast of China.

Dr. Parker met with a most cordial reception in this country. He held intercourse with all the leading men in our profession, and was patronised by not a few of the highest dignitaries, both civil and ecclesiastical. The object of the Medical Missionary Society was heartily approved of, and considerable sums of money were placed in Dr. Parker's hands for the forwarding of the good work to which he had devoted his life. The Royal College of Surgeons of London resolved to educate, at their own

charge, such Chinese youths as might be sent to this country for medical education. Three scholarships were founded in King's College, London, for the education of medical missionaries. At the meeting held in Edinburgh to receive Dr. Parker (on the 26th July 1841), a committee was formed, to co-operate with the Medical Missionary Society in China, which committee formed the basis on which the Society, whose interests have brought us together at this time, was afterwards reared.

Dr. Parker about the same time visited his native country, and held public meetings in New York, Washington, Philadelphia, and Boston, everywhere receiving the same favour and support. He returned to China soon after the conclusion of the war, and expended part of the funds collected in America and Britain in establishing hospitals at some of the ports opened by the treaty of peace. After this, differences of opinion arose between the medical missionaries from America and those from Britain, which resulted in the British ceasing to derive aid from the Medical Missionary Society in China. They were, therefore, obliged to depend for the support of their hospitals chiefly upon the contri-

butions of their fellow-countrymen resident in China. Dr. Parker has latterly been much occupied in political business; his long residence in the country, his acquaintance with, and influence over, all classes of the people, his knowledge of the language and business-habits, together marked him out as highly qualified for the management of the political relations between the United States Government and that of China. He was, therefore, appointed, first, Chargé d'Affaires, and then (quite lately) Chief Commissioner. It is gratifying to learn that Dr. Parker continues to attend at his hospital some part of each day. The conjunction, in one person, of such functions and such powers, as those of a medical missionary and the representative of a great nation like the United States, may seem to be anomalous, and perhaps incongruous. Assuredly, it must prove a severe trial of faith. Let us hope and pray that our friend may be supported under it, and be enabled to use the influence of his office to promote the spread of the Gospel around him, at the same time that he exhibits an example of meekness, forbearance, and love, as becometh a servant of the lowly Jesus.

I have adverted to the fact that it was on the occasion of Dr. Parker's visit to Edinburgh that the first movement was made towards the formation of our Medical Missionary Society. The committee that was then formed had for its object, exclusively, the collecting of funds, as an auxiliary to the Society in China, on whose behalf Dr. Parker visited us. Only a few months had passed, when (in November 1841) Sir Culling Eardley came to Edinburgh to plead the cause of the Syrian Medical-aid Association, which had just before been formed in London. Finding that most of those likely to take an interest in the Syrian scheme were already at work in connection with that on behalf of the Chinese Mission, Sir Culling suggested the formation of an independent society in Edinburgh, which should endeavour to form a centre of interest and action with regard to all medical missionary matters, but which should direct its *first* efforts to the supply of pecuniary aid to the Medical Missionary Society in China, and to the Syrian Medical-Aid Association of London. This suggestion having met with the approbation of the friends of the cause, a public meeting was held (on 30th November), and the Society was

formed, under the title of the Edinburgh Association for Sending Medical Aid to Foreign Countries. The objects were declared to be—To circulate "information on the subject of Medical Missions; to aid other institutions engaged in the same work; and to render assistance at missionary stations to as many professional agents as the funds placed at its disposal would admit of." And such continue to be the objects of the Society.

Dr. Abercrombie was the first president. He took a lively interest in the proceedings, and frequently attended the meetings, proving himself as wise in counsel as he was energetic in action. In 1843, the name of the Society was altered to that which it now bears. The name of "Missionary" was at first avoided, in deference to the views held by our friends of the Syrian Association, who believed that the agents to be employed in the East, would have to encounter less of the usual prejudice amongst the natives, if they were known to have been sent out by a society not "*Missionary*" in *name*, whatever it might be in reality. We have had no occasion to regret having made the change.

The Edinburgh Society occupied itself during the first three years of its existence, partly in the collecting of funds for the Chinese and Syrian Associations, and partly in diffusing information on the object and working of Medical Missions. But, in 1844, it was resolved to take up an independent position, and to send an agent of our own into the great mission-field of China, as soon as a suitable person could be found. But such a person was not easily obtained. Many advertisements were issued, many inquiries made, and not a few applications received and attended to; but no one was found altogether such as the situation required; and, to this day, we are without a missionary in China. In 1848, the Society was earnestly besought to send an agent to aid in the mission established at Parsonstown, in Ireland, under the direction of the late Rev. Dr. Carlile. The request was complied with; and, for six years, our excellent friend Dr. Alexander Wallace laboured amongst the Roman Catholics of Parsonstown, as our agent, with great acceptance. He has lately settled in the same town as a medical practitioner on his own account.

In endeavouring to carry out its object of

diffusing information on the subject of Medical Missions, the Society has issued various publications. These are the following:—

1. An Address to Students at the Scottish Universities, 1842.

2. An edition of Dr. MacGowan's tract, entitled "Claims of the Missionary Enterprize," 1847.

3. "Lectures on Medical Missions," by several members of the Society, 1849.*

4. "The Scriptural Warrant for the employment of Medical Agency in connection with Christian Missions," by the Rev. Dr. Andrew Thomson, 1850.

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* This volume of lectures was favourably noticed in many journals and reviews, medical as well as religious. Its object was fully commented upon, and generally approved of. Thus, although the sale was not very large, it seemed to be instrumental in diffusing a knowledge of the operations of our Society, and an interest in its plans, to a greater extent than could have been reached by any other means. I may here refer to an able article on Hindu Medical Missions, which appeared in the British Quarterly Review for November 1847; and to one on Medical Ethics, in which the publications and objects of our Society were noticed by Professor Laycock, published in the British and Foreign Medico-Chirurgical Review, in 1848. This last has lately been republished in a separate form.—(Edin. A. and C. Black, 1855).

5. "Address to Medical Students," by William Brown, Esq., president of the Society, 1852.

6. "Physiology of the Sabbath," by Professor Miller, 1854.

7. "Address to Students of Medicine," by Dr. Andrew Wood, 1854.

8. "The Medical Profession the Complement of the Christian Ministry," by the Rev. Dr. Robertson, Professor of Church History, 1855.

9. "A Biographical Sketch of Dr. Golding Bird," by Professor Balfour, 1855.

10. A journal of progress, published quarterly, under the title of "The Occasional Paper" of the Society, of which eight numbers have now appeared.

Besides these, which have been issued at its own charge, the Society has been instrumental in educing an interesting essay "On Medical Missions," written in competition for a prize, offered by the Society, by Mr. Wm. Burns Thomson, and published in 1854; also, two pamphlets by Kenneth Macqueen, Esq., entitled "Considerations addressed to the Friends and Contributors to the Funds of Foreign Missions, on the subject of Missions to India."

The first prize of £20, offered by the Society, was adjudged to Mr. Marley, surgeon, London; the second of £25 (given by a generous friend, George Forbes, Esq.) was adjudged to Mr. David H. Paterson, then a student of medicine at this University.

At the annual meeting of 1850, it was resolved to take advantage of the peculiar facilities for medical missionary operations existing in British India, and to occupy that field as soon as the means and a proper agent should be procured.

One of the first steps taken to carry out this resolution was to request the co-operation of friends at a distance; and, with a view to encourage this, it was resolved to grant to any local association that should raise £150, or a sum that should amount to one-half the annual expenses of the missionary station, the privilege of recommending any particular locality in India for occupation by a Society's missionary, or to select any station previously occupied, for nomination as the Foreign Missionary Station, especially in connection with this local committee. Subsequently, a second and similar resolution was adopted, by which the Society

was pledged to place a medical missionary in connection with the mission of any evangelical church or association, having an agency in India, that should contribute to the funds of the Society such a sum as would cover half of the expenses of the agent.

Nearly three years more elapsed before a properly qualified agent presented himself; but, at last, in 1853, Dr. John Owen Evans was appointed, and sent to labour at Mirzapore, in Northern India, in connection with the Missionaries of the London Missionary Society, who cordially entered into the arrangements proposed by our Society. Dr. Evans received his medical education at University College, London; he is a graduate of the University of London; and had a few years' experience of private practice, before offering himself for mission-service. He has now been about two years in India, whence he has forwarded some interesting and valuable reports of his progress. He is not yet provided with an hospital; but he has a dispensary in a good situation. Upwards of 1000 cases were prescribed for during last year. Diseases of the digestive organs prevail. When Dr. Evans shall have mastered the language of

the people amongst whom he labours, we confidently expect that he will find a very large field of usefulness open to him, and that he will energetically cultivate it.

Our Society has been requested to send missionaries to Calcutta, Madras, Benares, Culnah, Khatgur, and Saugor; but, alas! neither men nor money are supplied to enable the Society to meet all these demands. It is, however, probable that, ere long, an agent will be sent to Madras;* and, in due time, it may be hoped that many of the large cities of British India will be provided, through the instrumentality of this Society, with men able and willing to transplant all the best of modern science and art for the relief of human suffering, and, at the same time, to scatter the leaves of the tree of life for the healing of the nations.

And here I must advert to the *qualifications* which are required for the office of a medical missionary, according to the view taken of his duties by our Society. These qualifications

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* Since the lecture was delivered, Mr. David H. Paterson has been designated and sent forth as a medical missionary at Madras, where he has the prospect of co-operating with the missionaries of the Free Church of Scotland.

are, good health and soundness of constitution; freedom from physical peculiarities likely to impede usefulness in practice; a license to practise medicine and surgery; some experience in practice; a considerable degree of aptitude for the acquisition of foreign languages; prudence and self-control in conduct, and courtesy in manner; energy and patience; but above all, personal experience of the quickening and sanctifying power of the Gospel, and of the constraining power of the love of Christ. And, to give you an idea of how it is expected that these varied talents should be employed on the field of labour, I quote from a code of instructions to agents, which was issued by the Society four years ago:—The agent is instructed "to make his professional skill as extensively useful as possible to the inhabitants of the place of his abode—*first*, to the missionaries and their families; *secondly*, amongst the people who are the immediate subjects of the evangelistic operations of the missionaries; *thirdly*, to other persons. He is directed to visit as many as possible at their own homes, and to prescribe for others, either in dispensary or hospital, according to the means that may be placed at his disposal on the

spot. While his first duty, in every case, is to do his best in the use of means to remove physical suffering and to restore health, he ought to take advantage of all suitable opportunities to promulgate the Gospel, to commend the missionaries and their message to the confidence and acceptance of his patients, and, in general, to bring his influence to bear upon the promotion of the great object of all missionary undertakings. In case he be provided with an hospital for the reception and treatment of the sick poor, he ought to commence and close the services of each day in it with prayer and reading of the Holy Scriptures in the native tongue, excepting in cases where such duty may be undertaken by a missionary brother. Further, he should seek for opportunities 'to speak a word in season' to his patients, and distribute amongst them Bibles, tracts, etc. Should he have any available leisure, after discharging these several duties, the Committee would highly approve of his preparing and delivering, with the aid of such illustrations and apparatus as he may be able to procure, courses of lectures on some branches of science, for the instruction of the natives, varying these to suit the particular

capacities and circumstances of his audience, but always endeavouring to make them subservient to the diffusion of truth and righteousness. Lastly, the agent is recommended to keep a journal of all his proceedings (including observations on all cases of interest that may occur in his practice, and accounts of whatever remarkable objects or phenomena of nature he may happen to see), selections from which journal ought to be sent home, for the inspection of the Committee, from time to time."

In the diffusion of information regarding the progress of Medical Missions, the Society has always had in view the acknowledged reflex influence which the reception of such information exerts on the mind. The specialties of the work of the Divine Spirit on the heart are often connected with the hearing of what brethren are doing for the good of the perishing heathen. We are stirred up to consider why we take so little interest in a work that engages all the energies of so many devoted self-denying men; or, if we be conscious of feeling *some* interest in it, "why," we ask, "is it so feeble and inoperative?"

If these men give their lives, their all, and

spend their time chiefly in scenes very different from what they were accustomed to at home, and this with no prospect of increasing their substance in the present world, shall we not exert ourselves to aid them, and to cheer them on in their labour of love? Such questions, faithfully put to the conscience, must lead some of us to perceive that we *want* the internal spring of action which has moved these men to take their lives in their hands, and to go into the uttermost parts of the earth, in obedience to Christ's command. Yet what *they* have found, *we* may find if we seek for it. Such are the views which have led the Society to issue various papers, and to arrange for the delivery of various courses of lectures, especially addressed to students of medicine. We thus hope, with the needed blessing from above, to see one and another brought to attend to the things which belong to their own eternal peace; and led ultimately to rejoice in the possession of the "pearl of great price." Should this result be produced, we are assured that a larger number of men than hitherto will be made willing to say, "Here am I, send me;" and that many will be constrained to enter upon public life, in the practice of their profes-

sion, in whatever land, resolved to regard it, not as the way to pleasure and self-indulgence, but as the scene of high duties and awful responsibilities, where each man has his place and his duties assigned him, and the eye of the eternal God is over all. We cannot all be missionaries; but all of us can do something to forward the good work in which missionaries are engaged. *They* go as our representatives, to heal the sick, and to spread the glad tidings of great joy which are to all people, and *we* must help them. At our leisure, and with all the comforts of civilised life around us, we do what we can to relieve human suffering, and to augment the resources of the healing art; let us see to it that we make our brethren in the foreign mission-field partakers of the benefits which flow from our researches and observations. In this way, we both increase their usefulness, and extend to them a proof of our sympathy, which is very cheering, and highly prized. But this requires money, and concentration of effort. As a channel through which to make benefactions to our self-denying brethren abroad, our Society offers its services; and it has already been instrumental in supplying not a few of them with

books, instruments, and drugs. It would be very satisfactory if we were enabled to do this to a much larger extent. We are deeply conscious of the insignificance of our past proceedings, when we consider the greatness of the work before us.

Although I have dwelt at some length on the history of these proceedings, it has, certainly, not been to magnify them; but merely that I might illustrate the object and the aims of the Society, and so lead you to take a lively interest in these.

I have said that it was to a stimulus applied here by the representatives of the Medical Missionary Society in China, and of the Syrian Medical Aid Association in London, that our Society owed its origin. The proceedings of the first have been adverted to; I have still to narrate the history of the second.

Dr. Kerns was the first agent employed by that Society. He was stationed at Beyrout. At first, very few Turks or Mahommedans came to his dispensary, such was their bigoted hatred of the Christian name; but, latterly, in applying for medical relief, religious prejudices did not appear to have much, if any, influence;

—Jews, Druses, Maronites, and Greek Christians sat side by side with Turks; and, generally, the *females* outnumbered the males. Dr. Kerns, after some years of practice as a missionary physician, took orders in the Church of England, and acted for some time as a missionary in connection with the London Society for Promoting Christianity amongst the Jews. He is now settled in Yorkshire. Dr. James B. Thompson was then sent to Damascus, where he found a large field of usefulness. Soon, however, there arose a difference of views between him and the directors of the Society, with regard to the best mode of carrying on the mission; and this seemed to have operated very unfavourably on the progress of the Society at home, which has latterly been almost extinct. Dr. Thompson himself, deeply impressed with a sense of the importance of the Syrian field, returned thither two years ago, and settled at Antioch.*

Jerusalem, also, is the scene of the labours of medical missionaries. It is now several

* Since the delivery of the Lecture, we have learned with much regret that, having been induced to go to the help of his medical brethren in the military hospitals at Scutari, Dr. Thompson fell a sacrifice to fever in the course of last winter.

years since the London Society for Promoting Christianity amongst the Jews sent out Dr. Dalton, to assist Mr. Lewis in establishing a Mission there—this was in 1824. He, however, died in 1826. In 1835, the American Mission Board sent Dr. Dodge as a missionary physician, but he also died very soon. The London Society again employed medical agency in 1838, when Dr. Gerstmann and Mr. Bergheim, his assistant, (both converted Jews) settled in Jerusalem. A remarkable proof of the efficiency of Dr. Gerstmann's labours was afforded at a time of great commotion amongst the Jews, occasioned by the awakening of Rabbi Joseph. It is thus noticed in the narrative of the Mission of Inquiry to the Jews, from the Church of Scotland, in 1839. "When Rabbi Joseph was awakened, a *herem* or ban of excommunication was pronounced in the synagogues against the Missionaries and all who should have dealings with them. But when Dr. Gerstmann came in December, the Jews immediately began to break through it; another *herem* was pronounced, but in vain—no one regarded it; and Rabbi Israel refused to pronounce it, saying that he would not be the cause

of hindering his poor sick brethren from going to be healed." This interesting fact shews the immense value of the Medical Missionary. But, in the midst of his work, the result of which promised to be so valuable, Dr. Gerstmann was cut off. His place was supplied, at the time of the settlement of Bishop Alexander in Jerusalem, by Dr. Macgowan, who is now zealously prosecuting his arduous and self-denying vocation amongst the poor tenants of the Holy City. The latest accounts shew that he is fully established in their confidence and esteem; and he himself states that his professional character has placed him on such a footing of intimacy with them, as enables him to become acquainted with their habits, opinions, and mode of life, to an extent wholly unattainable in any other way. Very strong testimony has of late years been borne by many travellers to the great efficiency of Dr. Macgowan's Missionary Hospital.

The following is Dr. Macgowan's own account of the *materiel* and service of the hospital:—

"The edifice was constructed almost anew from an old dilapidated building, and has been rendered fit, though with much expense, to

answer the purposes of its present destination. It contains two large wards of eight and ten beds each, and three smaller ones of ten beds, besides a smaller one of two, making in all thirty beds. Attached are kitchen, wash-house, baking-house, etc. The servants of the establishment are four nurses, two men and two women—a cook and kitchen-maid, a porter and baker, and an errand-boy—nine servants in all. The officers, a physician, a surgeon, an apothecary or dispenser and assistant, an almoner or steward—five in all. The patients are provided with linen and dresses during their stay in the hospital; and, on their leaving, receive a small sum in money, or an article of dress from a separate charitable fund. Family prayers in Hebrew are said every morning in the hospital; and a copy of the Holy Scriptures in the same language is placed by the bedside of each patient, which is offered for his acceptance on his leaving the establishment.

"The number of patients annually admitted into the hospital amounts to from 360 to 400, and that of out-patients to from 6000 to 7000.

"The *dispensary* is placed in an adjoining house, where also reside the dispenser and his assistant.

"The expenditure of the hospital, exclusive of the salaries of the officers, amounts to about £500 *per annum*.

"The accommodations for the patients and the service of the house are equal to those of our English hospitals in every respect. But you may easily believe that this effective working of the establishment has not been accomplished without great difficulty and pains in a country like this, in which the habits of the natives are so contrary to order, regularity, and cleanliness. We have had much also to contend with in the strong prejudices of the Jews themselves to receiving relief of this peculiar domestic character from Christians; and these prejudices are more inveterate in Jerusalem than in any other part of the world. Excommunications have followed each other without number against those of their own people who should cross the threshold of our hospital; but, though these interdictions have, for a time, deterred patients from applying for relief, yet their effect has at length proved unavailing, and they are now laid aside as worse than useless.

"Upon the whole, I may say that it has pleased the Lord to bless our efforts far beyond

our poor deserts and most sanguine expectations. Our hospital has been rendered a real blessing to the poor sick outcasts of Israel, not only in relieving their bodily ailments, but in opening their hearts to the warmth of Christian love, which has sympathized with their sufferings, and poured oil and wine into their wounds. That a few should look upon the Christian as a friend and brother is a great result; it is the best and surest preparation to his receiving the blessed truths of the Gospel."

At a public meeting in London in 1852, Lord Claude Hamilton, in speaking of the mission hospital at Jerusalem, said—"The success which has attended our efforts in connection with this institution is greater than we had any right to look for. Gradually, the opposition and repugnance exhibited towards it on its first establishment have faded away. I think any one who remembers the amount of opposition Dr. Macgowan met with in carrying out that institution, the prejudice he had to contend against, and considers what God has now done,—how He has made the institution, despite the precautions taken, to become a means, not only of healing the bodily sufferings of the inhabitants

of Jerusalem, but of ministering to their soul's health,—how he has turned the arts and machinations of man to contribute to the glory of His holy name, and brought those who were most bitter in their hostility, even the Rabbis, to recognize the services of Dr. Macgowan, and bless him for them;—any one who considers these things must acknowledge that this is marvellous in our eyes, and will be sure that it is the Lord's doing."

I have been favoured with an account of a visit paid to this interesting hospital, during the last summer, by one of your own number, Mr. Alexander G. Duff. An extract will, I am sure, gratify as well as instruct you.

"It affords me much pleasure, in compliance with your request, to state briefly my impressions of the Mission Hospital at Jerusalem.

"From the first establishment of the London Society's Mission, the necessity for such an institution was felt to be urgent. The Jews are nowhere so difficult of access as in their own metropolis. There Rabbinism reigns triumphant; and all the Jews being supported by contributions from Europe, distributed by the Rabbis, these latter exercise unlimited sway over

the mass of the Jewish population. Under these circumstances, the erection of an hospital for the gratuitous treatment of their sick seemed to offer the only certain medium for the communication of Christian truth. Accordingly, in 1842, Dr. Macgowan, having been appointed physician to the mission and superintendent of the hospital, accompanied Bishop Gobat to the Holy City, and commenced his philanthropic labours.

"Having resided with Dr. Macgowan during a recent visit to Jerusalem, I enjoyed ample opportunity of examining into the nature and working of the Mission Hospital. It is a plain unpretending erection situated on Mount Zion, on the western aspect of the city, and in close proximity to the physician's dwelling house. Of beds, it numbers thirty, and they are generally fully occupied. These are distributed nearly equally over the upper and lower storeys, the former being devoted to females, the latter to males. The nurses seemed uniformly civil and attentive, and Dr. Macgowan appeared thoroughly satisfied with their conduct. Those at present officiating in that capacity are, I believe, natives of Switzerland. Attached to the hospital is an

excellent dispensary and armamentarium. The former is supplied with medicines obtained direct from London, and is conducted by an able assistant, under the immediate superintendence of Dr. Macgowan. The assortment of instruments placed at the disposal of the physician is most complete, and furnished from the warehouses of the first European makers. I must not omit to mention the unexceptionable cleanliness and symmetry of the culinary department;—in short, from the last-named upwards, everything is admirably conducted, and bears the impress of a most efficient regulating mind.

"By the bedside of each hospital inmate is placed a copy of the Holy Scriptures; so that, although direct interference with their ancestral faith is not permitted, the all-important truths of Christianity are thus brought indirectly before them. The patients consist principally of Jews; the Mahommedans exhibiting a strong aversion to have any dealings with despised and forsaken Israel.

"Having accompanied Dr. Macgowan in his hospital rounds, I am enabled to record the thorough familiarity with the practical details of his profession manifested at the bedside of his

patients. To his accomplishments as a physician, Dr. Macgowan adds the highest qualities that can adorn a Christian and a gentleman. Mild, yet firm in his deportment, he inspires confidence into the minds of those who place themselves under his professional care; and from all I could learn, he is universally respected and beloved.

"In addition to the superintendence of the Mission Hospital, Dr. Macgowan has an extensive out-door practice among the Jewish population. This is another most important mean towards the same glorious end.

"In conclusion, I cannot but record the intense satisfaction afforded to my father and myself by our visit to Jerusalem, and stay under Dr. Macgowan's roof." *

Besides the American physicians, already

* "Dr. Macgowan received, not long ago, a visit from the chief Rabbi, and several of the other Rabbis, to thank him for all the good he does to Israel. Some of these Rabbis were once among his bitterest enemies. Gladdening, too, are the official reports of the number of those who have received help, either from Dr. Macgowan himself, or from his assistant, Mr. E. S. Calman. Not less than 457 patients have been treated in the hospital during the past year (1851); 5113 have been out-patients, relieved at the establishment; and 2713 patients have been visited at their own dwellings."

mentioned, as having been sent to Jerusalem as missionaries, Drs. De Forest and Van Dyck were sent, the one to Beyrout, the other to Abeih, in Mount Lebanon, about twenty years ago, by the American Board. At a later period, Dr. Paulding settled in Damascus. The services of these devoted missionaries, still in the field, have been acknowledged as of no small value. They have been successful in communicating much sound medical knowledge to some of the very intellectual people among whom they labour. A few of these have come to Britain, and have passed through complete courses of medical study. Assaad Jacoob Kayat is one. He distinguished himself very much during the educational career which he passed at Cambridge and in London; and, at its close, was presented by the Royal College of Surgeons of London, not only with their diploma, but with a special gift in the form of copies of all the publications issued by the College, as a mark of their esteem and good wishes. He was further honoured by receiving the appointment of British Consul at Jaffa, where he now resides, practising gratuitously amongst the poor, and supporting himself by farming and merchandise. He opens his

house for divine worship, according to the Protestant rites, every Sabbath.

Before he left Britain, Assaad Kayat published an interesting book, entitled a "Voice from Lebanon," which consisted mainly of an appeal to the Christians of Great Britain on behalf of the comparatively neglected and degraded Christians of Syria. This book contained also strong testimony in favour of the working of medical missions in the East. A similar work was published two years ago, under the title of "*The Thistle and the Cedar of Lebanon*," by Habeeb Risk Allah, also a Syrian, who passed through a complete course of medical education in London, and returned to the East, where he is now in the medical service of the Sultan's army.

Another Syrian, educated by the American missionaries in medicine, has of late years done much good amongst his countrymen. I mean Mr. John Wortabet of Hasbeia, a brother of Mr. Gregory Wortabet, who visited this country eighteen months ago, and startled us by his fervid eloquence.* Mr. John Wortabet has never been out of Syria, but has made, it is said, astonishing progress in the acquisition of Euro-

pean science. He is now pastor of a church at Hasbeia, but labours much as a medical missionary. In a letter which I received from Mr. Wortabet last year, he remarked—

"While, undoubtedly, the preaching of the glad tidings of salvation by Christ alone is the primary and principal human means in the conversion of sinners, the acting out of the benevolent spirit of the Gospel by the medical missionary, and the private instruction and conversation on this great subject, for which the missionary physician, of all others, has the best opportunities, are very important helps. So far as I have observed, the physician has the readiest ear; and, in alluding to the diseases of the body, he has frequent opportunities to speak of the great disease of the soul, and of the sure remedy in the blood of Jesus; and, if he is faithful, the Gospel will turn out, as often as sovereign grace orders, to be the power of God unto salvation."

We can point to few more striking instances of the advantage of combining the practice of medicine with the preaching of the Gospel, than what occurred a few years ago at Madeira, under the ministry of Dr. Robert Kalley. This

gentleman studied medicine and graduated at Glasgow. In the midst of a gay and thoughtless career, he was arrested through the effectual preaching of the cross, and constrained to devote himself entirely to Christ's service in the field of missions. He offered himself to the London Missionary Society, and was accepted, with the view of being sent to China. Meanwhile Mrs. Kalley sickened, and was advised to spend some time in Madeira. Being in independent circumstances, Dr. Kalley resigned his connection with the Missionary Society and accompanied his wife to Madeira. This was in 1839. Having soon made himself master of the Portuguese language, he opened a dispensary for the sick poor, which was resorted to by persons from all parts of the island. Dr. Kalley read the Holy Scriptures to the assembled patients, and distributed copies of them in Portuguese; many purchased bibles for themselves. In the course of two or three years, a considerable effect was produced on the minds of many previously bigoted Romanists; crowds of them came to hear Dr. Kalley expound the Scriptures in his own house and garden; and he was frequently invited to go to considerable distances in the interior, where he was encouraged

to proclaim the Gospel in public places, and eagerly listened to by large numbers of persons. He literally went from village to village, ministering to the sick as a physician, and pointing all with whom he came into contact to the only medicine provided for the healing of the soul's diseases. When it was obvious that many persons were beginning to question the infallibility of Rome, and were disposed to accept as of infinite importance the simple truths of the Gospel, the priesthood was roused, and incited the public authorities to institute proceedings against Dr. Kalley, which ended in his incarceration on a charge of "blasphemy, and abetting heresy and apostasy." Through the interference of the British Government, Dr. Kalley was set at liberty in the beginning of 1844. Soon after, in his reply to a letter of sympathy which had been sent to him during his imprisonment by the Edinburgh Medical Missionary Society, he wrote thus:—

"The medical servant of the Lord Jesus enjoys many advantages in his service. After having experienced the benefit of the physician's advice, with regard to bodily ailments, and been persuaded of the sincerity of his desire to do them

good, men listen with deep attention to his counsels respecting the soul; and it often happens that the mask under which they hide themselves from others is laid aside before him. He has a better opportunity than other men for ascertaining the true state of the heart, and enforcing with power appropriate truths."—"The cure of the body is as much the work of God as is the resurrection of the soul. Of both, He ought to have all the honour, for *He* alone can achieve them; but *in both* He employs human instrumentality. In both, men are responsible for what they do, and for what they neglect to do; and in *both*, the instrument may participate in the joy of his Lord."

Take these words as the sincere utterance of an experienced labourer, who had well counted the cost of the service to which he had devoted himself, and who had *suffered*, even in the way of bonds, reproach for his Master's sake, and you will find them very impressive, as well as interesting. Once more at liberty, Dr. Kalley resumed both his medical and his evangelistic labours, under the belief that he did not thereby contravene any law of Portugal. But he was soon made to feel that a powerful enemy

was at work against him. Some of the converts were apprehended and condemned. Dr. Kalley himself was pointed at as meriting public obloquy, and was threatened with personal violence by the mob; he failed to obtain the protection of the British authorities; and, to save his life, he was obliged to flee from the island clandestinely. But, notwithstanding all these untoward events, the good seed sown by Dr. Kalley took root and yielded much fruit. Several hundred (800) persons threw off the yoke of Rome; and found the means of having themselves transported, first to Trinidad, and ultimately to the valley of the Mississippi, where they found that liberty to worship God according to the dictates of their own enlightened consciences, which was denied them in their native island.

This work at Madeira has well been designated "The greatest fact of modern missions." Dr. Kalley's own simple statement of the part he was honoured to take in it was as follows:—

"Gratuitous medical aid induced many to visit me, and experience of benefits which they prized led them to regard me as a friend. While conversing with them about the diseases of their

bodies, and the remedies which they were to employ, it required little effort to turn their attention to the soul, the physician, the remedy, and the result, and thus they listened with less prejudice than they would probably have done in other circumstances."

I am happy to be able to add, that Dr. Kalley, after having been usefully employed for some years in Malta and in Palestine, and having visited the Madeira refugees at Illinois, has recently settled in South America, where he has found a field of labour in which he can avail himself to the full of his acquaintance with the Portuguese language.

There are few circumstances in the history of Christian missions more remarkable than the zeal and success with which our American brethren have carried their evangelistic labours into some of the most inaccessible regions of the old world. In places obviously much more within the reach of British Christians, the missionary societies of the United States have had flourishing missions for many years. And in not a few of these, the pioneers, and even the most useful agents, have been physicians. But it is especially in the mountainous wilds of Kurdistan

that the medical missionaries have distinguished themselves. Having commenced a mission to the remarkable people inhabiting the central region of that territory, the Nestorians, the American Board soon saw the desirableness of having a medical missionary as one of the staff. Dr. Asahel Grant was led to offer his services. He had been for some years settled in medical practice at Utica. It was on the occasion of an annual meeting of the Board of Commissioners for Foreign Missions being held at Utica in October 1834, that Dr. Grant was first led seriously to entertain the idea of devoting himself to missionary work. He then learned that the Board had, for many months previously, sought in vain for a physician to join the Nestorian Mission; and he was constrained to put to himself the question, "Is it my duty to go?" Letters addressed to his mother and sister remain, which prove how deeply exercised his mind was, while deliberating on the important step he was about to take. "I have solemnly vowed," he said, "in the presence of men and angels, that I will consecrate myself and all I have to the Lord; and I dare not go from that altar, to stand impeached before an assembled

world of having been an unfaithful steward, of having loved the world more than God—more than the souls of my dying fellow-men."

In a paper, written and published two years after he had entered upon his work in Kurdistan, Dr. Grant gave the following abstract of the reasoning which led him to decide upon devoting himself to missionary service:—

"Am I most *needed* at home, or in foreign lands, to promote the great work of the world's conversion? *Here*, I have many opportunities to relieve a great amount of human suffering, and perhaps to save valuable lives. But, were I gone, other physicians might do it as well. In the missionary field, I may relieve a hundred-fold greater amount of human misery, and perhaps be instrumental in saving the lives of some of our missionaries, which are of inestimable value to the Church and the heathen world—and that, too, when no one else would do it.

"In the practice of my profession here, I have many opportunities for recommending the religion of Jesus, and advancing his cause. But what are these in comparison with those in Mohammedan or heathen lands, where I may be the only spiritual guide to thousands

who could never be reached by another missionary?

"If I remain here, and my business continues to prosper, I can give liberally to the support of missions, and may labour for the heathen by proxy. But money will never do the work alone; and *labourers*—especially those from the medical profession—are not to be found in any thing like adequate numbers, while there are millions of wealth in the Church.

"As an office-bearer in a large and influential church, and in various religious and benevolent societies, I have opportunities to exert an important influence; and many of my brethren think I ought not to leave such a field of usefulness for one of uncertainty. But do I not know that those churches which send forth the most labourers, and do most for the heathen, are most blessed by the Spirit of God? And can I not do most for Christian benevolence at home, by going forth to labour amongst those who are sitting in darkness?

"But there are other ties which cling close around the heart, and entwine with the tenderest feelings of nature; and how shall they be severed? How shall my parents, in their

declining years, give the last parting hand to their son? How shall my sister and brothers say farewell to the companion of their childhood and youth? Nay more, how shall I leave my two little sons in this cold unfriendly world? So far as mere *feeling* is concerned in these questions, although it may penetrate the deepest recesses of the soul, it should never turn the Christian from the path of duty. My parents are not dependent upon me; my becoming a missionary may be the greatest blessing to my brothers and sister; and what can I do for my children, which will not be done if I am gone? The only intrinsic good which can be done for a child, is to prepare him for the greatest usefulness in this world, and the enjoyment of God in heaven. For this, the means and the agents can be provided, and, superadded, will be a parent's example, to turn their attention to the great work, which it will ever be his most earnest prayer that they may be qualified to enter. If God calls me to leave them for his service, he will take care of them."

Such was the spirit in which Dr. Grant counted the cost of devoting himself to mission

work. And his career corresponded with his entrance upon it. In the midst of great difficulties and great trials, Dr. Grant was enabled to persevere, and was honoured to do much good. "Behold him," wrote Dr. Macgowan, (now of Ningpo), in 1842, "armed only with his needle for the removal of cataract, forcing mountain passes, and, amidst ferocious warriors, winning his way to their homes and their hearts. On account of his professional skill, he was enabled to traverse in safety regions heretofore untrodden by civilized man; where inevitable death met the ordinary traveller, and in whose defiles an army would perish in attempting to effect a forcible entrance." *

Did time permit, I might give you particulars of the labours of other medical missionaries, both American and British, who have, within the last twenty years, in various parts of the world, done good service in the work of evan-

* An admirable memoir of Dr. Grant, who died in 1844, has been published by the Rev. Thomas Laurie, and reprinted in this city, as one of the volumes of the "Fireside Library," by *Johnstone and Hunter.*

gelization. Ward in Ceylon, Scudder in Madras, Bradley at Baukok in Siam, Wright in Oroomiah, Azariah Smith at Mozul, Baldwin, James Smith, and Andrews in the Sandwich Islands, have all been enabled to persevere, and to exercise their gifts of healing for the good of many. Chiefly because he was a native of Edinburgh, and but recently a pupil at this University, would I advert more particularly to the late Rev. Charles Leitch, whose early death we are still mourning. Mr. Leitch applied himself assiduously to the study of medicine here and at Glasgow, at the same time that he pursued a theological course. He was licensed by the Faculty of Physicians and Surgeons of Glasgow, was accepted of as an agent of the London Missionary Society, and was sent in 1851 to Neyoor, S. Trávancore, South India, where he entered, with the greatest energy and self-denial, on the work of a medical missionary. His associates in the mission were much struck by the zeal and success with which he prosecuted his labours, and looked forward with hope to a career of great usefulness. But it pleased God to make that career a short one. Mr. Leitch

was, in August last year, drowned while bathing, ere he had completed the second year of his residence in India. Within the first year, he treated 5318 persons at his dispensary. He stated his own firm belief to be, that the mission-dispensary was productive of moral results, and that it was truly auxiliary to the higher forms of Christian agency. Mr. Leitch possessed no ordinary qualifications for the sphere which he was led to choose. His bereaved associates in the mission thus wrote after his death:—

"From what we witnessed during the time Mr. Leitch was carrying on his labours, and from what we have since seen, we are all deeply convinced that a medical missionary, devoting himself as such, with kindness to the suffering, and with constant piety towards God, has very great advantages over a missionary not medically qualified. In his medical capacity he can obtain an introduction where, as a missionary, he would meet with repulse; and in times when the spirit is softened by affliction, he is allowed to direct the mind to the great Physician of souls." And another brother missionary said of him—"I knew none whose prospects of use-

fulness compared with his. I have often thought that he was almost a perfect missionary." *

I wished to have spoken to you also of others, such as Williams, who perished at Tierra del Fuego, and of Bettelheim, who has laboured for several years at Loo Choo, with no small success.

Further, I desired to advert to the formation of the Chinese Evangelization Society of London, which intends to employ medical men chiefly as its agents, and which has already three in the field. And, as subsidiary to the cause which we advocate, I wished to have mentioned some particulars regarding the objects and constitution of the Christian Medical Association of London, which has the spiritual good of medical students especially in view.

But I must hasten to conclude. By such a retrospect as I have set before you, we are reminded of the responsibility laid upon us in having access to, and influence over, the minds of our fellow-men in the most critical circumstances of their existence; and of the importance of endeavouring to avail ourselves of these

* Since this lecture was delivered, a remarkably interesting memoir of Mr. Leitch, by the Rev. Dr. Smith, of Biggar, has been published by Messrs. Oliphant of this city.

occasions to employ that influence for their good in a spiritual point of view. All of us are apt to forget that the fellow-creatures who come under our professional care possess a compound being—that there is an immortal spirit, as well as a body, in every patient that presents himself. We ought not to forget this; we ought not, at any time, to be indifferent to it; that we are both forgetful and indifferent, in ever-varying measure, is at once a proof of the moral obliquity of our fallen nature, and a cogent reason for our seizing upon all fitting opportunities to provoke one another to consider what our duty in this matter is, and to endeavour to do it as in the sight of Him who will one day call us to give account of our stewardship. Certainly, no true Christian engaged in the practice of medicine can be habitually, or for any considerable time, neglectful of the spiritual interests of his patients; the love of Christ constrains him to seek for their good in the highest sense. But even the most zealous and considerate amongst Christian medical men will be the most ready to acknowledge their need of such provocatives to faithfulness and diligence in the exercise of the gifts that are given to them, as

such meetings as the present are *fitted*, and (in part) *intended* to supply.

The same, we are persuaded, may be asserted of the medical student who has been privileged to receive the Gospel into his heart. He hails with thankfulness all opportunities of having himself roused to "give more earnest heed to the things that concern his eternal peace, and to those whereby he may edify his brother."

We humbly trust, therefore, that, with the needed blessing from above, our meetings will prove both acceptable and useful to all who care for these things, both old and young.

And, should we be favoured with the company of some who have not hitherto felt any interest in Gospel truth, or in the missionary enterprise, we would take the liberty of beseeching them to apply themselves earnestly to the prayerful study of the Holy Scriptures, that they may learn for themselves whether these things be so.

Now is the time. We are here to endeavour to assure *you* that knowledge of the way of salvation through Christ Jesus is the best of all knowledge; that it is a source of internal *peace and joy*, such as nothing else we have heard of

can give on this side the grave, and such as nothing in the world can take away; that in all the temptations, hardships, difficulties, and sorrows of life, it is as "light in the darkness," a harbour in the storm, bread to the hungry, and deliverance to the captive. We would urge you to seek to attain this knowledge for yourselves without any delay. Who amongst you is not at this moment ready to admit that he feels the need of some such guiding-star for life? The priceless boon is offered *freely* to *all.* "*Ask and ye shall receive.*" Persevere in prayer for the guidance of the Holy Spirit, that, being yourself led into all truth, you may have understanding of the spiritual necessities of your patients, and be qualified to counsel and to comfort them as occasions offer. You must, however, be prepared to meet with many, and to hear of more, even distinguished members of our profession, who do not regard it as either a duty or a privilege to interest themselves in the moral or spiritual condition of their patients. They think they have done all that is required of them when they have determined the nature of the disease under which the sick man labours,

and have efficiently carried out the proper treatment. It may be that the disease with which the patient is affected has had its origin in some error of conduct, unquestionably indicative of the existence of moral evil, such as is corrigible under the sanctifying influences which the Bible tells us of, and such as the patient might be helped to contend against by the earnestly expressed warning, or friendly counsel of his medical attendant (who, perhaps, is the only person conversant with the circumstances of the case), but he has nothing to say; it is not his business to take account of his patient's state of mind, or of his habits dependent upon that; he is not his brother's conscience-keeper; let him seek his *spiritual* counsellor, *if he will;* but, alas, the probability is, that *he will not;* and so, the precious opportunity of doing good, in the best sense of the word, passes away unimproved. We earnestly hope and pray that *you* may be preserved from the evil of adopting such views. Be assured, at all events, that a large proportion of the people of this country now desire and expect to find their medical advisers living under the habitual influence of Christian

truth, and able intelligently to confer with them on spiritual subjects.

"No intelligent physician,"* says Dr. Tweedie, "can practise for a single month, without having the connection between sin and disease forced upon his notice. He may be too thoughtless to attend to it, or too gross to think of it at all; but whether he think of it or not, the fact is unquestionable—there is a necessary, a divinely-appointed connection between crime and disease. The bloated drunkard, and the wasted debauchee, the premature death of many a youth, the madness of many a maniac, all proclaim the beneficent decree of God, that suffering shall follow sin. Now, can it be rational for men to be daily cognizant of that connection, and do nothing to counteract it? Maintaining a daily conflict with pain, shall they ignore its origin? Are they benevolent or merciful, who assail the bodily disease, but neglect the divine antidote for the soul? Nay, am I not conspiring against the immortality of self-deluded man, if I know a cure for that mortal ailment

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* "A Lamp to the Path." Edin. 1853.

which has seized on the very vitals of his being, and yet hide it from his view? Rather let me press it kindly on his notice; and that I may learn to do so with tenderness and tact, let me make sure that it has attracted my own, that my soul is illumined by its radiance, and animated by its hopes."

